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WORLD TRADE AND THE IMPACTS OF TARIFF ADJUSTMENTS UPON THE UNITED STATES WINE INDUSTRY

Kenneth R. Farrell and O. P. Blaich

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WORLD TRADE AND THE IMPACTS OF TARIFF ADJUSTMENTS UPON THE UNITED STATES WINE INDUSTRY

by

Kenneth R. Farrell[1/] and O. P. Blaich[2/]

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SUMMARY

Wine is one of a comparatively small number of agricultural products for which the European Economic Community may seek United States tariff reductions in the multilateral trade negotiations to be conducted in 1964 under the auspices of GATT. The value of wine and brandy imported into the United States from the EEC totaled $55.1 million in 1962. That represented close to one-quarter of all United States agricultural imports from the Community and 87 percent of all wine and brandy imported into the United States. A large volume of wine also is imported into the United States from Spain and Portugal.

Two-thirds of the world's wine is produced in six countries bordering the Mediterranean Sea. Of these, France and Italy are by far the largest producers; each has produced consistently 1 to 1½ billion gallons annually since the end of World War II. In total, the EEC and Algeria, which has essentially the same commercial status in the Common Market as the six member countries, produced 54 to 61 percent of world supply of recent years. Production in Spain and Portugal, potential associate members of the EEC, has in total ranged from 700 to 900 million gallons per annum.

World production, although variable from year to year, has trended upward since 1950. Preliminary estimates for 1962 indicate record-high world production--25 percent greater than the average of 1950-1954. Most of the major wine-producing nations have shared in that increase. Italy, Spain, Portugal, and France expanded production substantially in 1962. United States production rose from an average of 132 million gallons in 1950-1954 to 173 million gallons in 1961. However, in relation to world production, the United States share has remained constant at about 8 percent.

Per capita consumption of wine varies widely among countries: 33 gallons in France, 30 in Italy and Portugal, 15 in Spain, and 0.9 in the United States. With the exception of France and the United States, per capita consumption in the important consuming nations has been increasing since 1950. Total consumption, reflecting increased population as well as rising per capita consumption, has increased in all the major wine-producing nations of Europe and in the United States. Consumption in the EEC has risen 14 percent since 1950-1954;

United States consumption has increased 25 percent. Yet, very large quantities of wine are allocated to industrial uses in France and Italy. In 1961, 261 million gallons--26 percent more than all wine consumed in the United States--was allocated to industrial uses.

Despite increases in total wine consumption, the major wine-producing nations of the world have become more dependent upon export outlets for disposal of wine supplies. French exports have risen from an equivalent of 4.5 percent to 7.2 percent of production; Italian exports rose from 2 to 4 percent; Portuguese exports increased from 12 to 22 percent of production. United States exports remained constant at the very low level of 200,000 gallons per year. A large part (30 to 50 percent) of the wine trade of the EEC is among member countries of the Community. This reflects specialization among those countries in production of various types and classes of wine. Compared to intra-Community and intra-European trade, the United States market is a small residual outlet for the Community. United States imports of wine more than doubled in volume between 1950-1954 and 1962 and in relation to total consumption rose from 4 to 8 percent.

United States tariffs on wine have generally decreased in both specific and ad valorem terms from the duties prescribed in the Tariff Act of 1930. Tariffs are higher on bulk wines than on bottled wines imported for direct retail distribution. In general, however, current United States tariffs on wine are low in relation to those maintained by other countries. Unlike several other countries, the United States does not maintain quotas for imported wines. One of the obstacles confronting would-be United States exporters of wine to Europe is the multilateral arrangement known as the "Madrid Agreement." The Agreement provides for international registry of appelations by origin and restricts the use of those appelations to wines produced in the registered area of origin. All of the major wine-producing nations of Europe are signatories of the pact.

Data by which European grape and wine production might be projected quantitatively are either inadequate or wholly lacking. Physical surpluses of wine already exist in Europe and have been the subject of special attention in the announced wine policy of the EEC. On the basis of acreage trends in the 1950's, observations of Europeans on the magnitude of recent plantings of

fruit crops in total, and the possibilities of increasing grape yields, it appears that European grape and wine production potential will be maintained and possibly increased during the remainder of the 1960's.

Total expenditure for alcoholic beverages in the EEC is projected to increase by a maximum of 47 percent by 1970. It is questionable whether consumption of wine will increase by the same relative amount. Recent data indicate per capita consumption rates may be stabilizing. And, as incomes rise at the projected rate, there may be a substitution of higher priced alcoholic beverages and nonalcoholic beverages for wine. Even if this occurs, consumption can be expected to increase gradually as population rises. On balance, it appears that the wine industries of Europe are likely to continue to be confronted with "surplus" problems, at least in the short-run context of the next several years. The longer run implication of that situation for world trade in wine will depend upon whether national and EEC policies are adopted to encourage excess production resources to leave the grape and wine sectors and thus bring supply into a more reasonable balance with demand or whether policies are directed toward disposal of surpluses on world markets without adjustment of production capacity. Thus far, the common wine policy has been directed toward improvement of wine quality, collection of production and marketing data, and establishment of quotas to regulate the intra-Community flow of wine.

California contributes more than 90 percent of the grapes and more than 80 percent of the wine produced in the United States. Between 1950-1954 and 1962, California wine production increased 26 percent, reflecting a somewhat higher allocation of the total grape crop to wineries and increased total production of grapes during the last half of the 1950's and in the early 1960's. In California, as throughout the world, total grape and wine production has been quite unstable from year to year. Although nonbearing acreage of grapes has been declining during the past two years, it is probable that bearing acreage of grapes will continue to increase in California during the next several years but at a slower rate than prevailed in the last five years. This, coupled with the secular rise in yield per acre, suggests a moderate expansion in the state's grape and wine production potential in the next few years.

Total consumption of wine in the United States has increased by almost 25 percent since 1950-1954. Most of this increase is attributable directly to continuous growth in adult population. At the same time, the pattern of wine consumption has undergone a considerable change. There has been a pronounced increase in adult per capita and total consumption of table, special natural, and sparkling wines. Conversely, consumption of dessert wine per adult has declined about 20 percent since 1950-1954. Growth in population offset that decline throughout most of the 1950's, but in the latter part of that decade and in the early 1960's total consumption also declined.

United States adult per capita and total consumption of most types of imported wine has increased more rapidly than has consumption of respective types of domestically produced wine. In relation to annual average consumption of all imported wine in 1950-1954, the 14 million gallons of imported wine consumed in 1962 was nearly 2.5 times as great; as a proportion of all wine consumed in the country, total consumption of imported wine rose from 4.0 percent to 8.4 percent. The volume of table wine imported for consumption has more than trebled in that period of time and has quadrupled in relation to the year 1950 alone. Whereas consumption of imported table wine represented 6.5 percent of total table wine consumption in the country in 1950-1954, it represented 13.2 percent of total consumption in 1962. Imports of dessert wine for consumption, although small relative to total consumption of that wine in the country, increased 76 percent between 1950-1954 and 1962 and in the latter year represented about 2 percent of total dessert wine consumption. Imports of dessert wine continued to rise even while total consumption of domestically produced dessert wine was decreasing during the past six years. The volume of imported vermouth and sparkling wine has also increased substantially since 1950-1954. Of the four major types of wine, imported wine now constitutes a smaller proportion of total consumption in the country only in the case of sparkling wine.

Statistical analyses of demand for table and dessert wine in the United States have indicated that changes in total consumption are associated principally with changes in three variables: (1) the price of wine in the United States as reflected in the price of bulk table wine, f.o.b. California wineries, (2) per capita real disposable personal income in the United States, and (3) United States population. Those analyses have indicated that a change

of 1 cent per gallon in the price of table wine is associated, on the average and by itself, with a change in the opposite direction in total consumption of table wine of about 230,000 gallons per year. The same change in price of dessert wine is associated, on the average and by itself, with an opposite change in total consumption of dessert wine of about 250,000 gallons per year. A 10 percent change in per capita real disposable income in the United States is associated, on the average and by itself, with a change in the same direction in per capita consumption of table wine of about 10 percent per year. The effect of a change in per capita income upon consumption of dessert wine appears to be much less--perhaps less than 1 percent and not more than 5 percent from a 10 percent increase in income.

Changes in the volume of imported table wine entering distribution channels in the United States appear to be related statistically and principally to three variables: (1) the price of table wine in the United States as reflected in the price of California bulk table wine delivered in the eastern United States, (2) per capita real disposable income in the United States, and (3) United States population. No statistically significant relationship was found between United States imports of table wine and the production of wine in the EEC, the major area of origin of table wines imported into the United States. On the average and by itself, a 10 percent change in the United States price of table wine is associated with a change in the same direction in adult per capita imports of table wine of about 6 percent per year. A 10 percent change in per capita real disposable personal income in the United States is associated, on the average and by itself, with a change in the same direction in adult per capita imports of table wine of about 20 percent per year. These variables, magnified by rising adult population in the United States, account for a large part of the increased imports of table wine since 1948. It is significant that a given increase in per capita income in the United States is associated with a much greater increase in consumption of imported table wine than of domestic table wine; the ratio is 2:1 in favor of the imported product. The steady rise in per capita real income since 1948 would seem to account for the growing relative importance of imported table wines in United States markets. The fundamental causes of the apparent shift of consumer preferences in favor of imported table wine as their incomes rise cannot be ascertained from this analysis.

Statistical analyses of factors associated with changes in United States adult per capita imports of dessert wine indicate that a 10 percent change in the price of dessert wine in Spain and Portugal--the principal sources of supply of imported dessert wines--is associated, on the average and by itself, with a change in the opposite direction in adult per capita imports of dessert wine of about 8 percent per year. A 10 percent change in United States per capita real disposable personal income is associated, on the average and by itself, with a change in adult per capita imports of dessert wine of about 9 percent. No statistically significant relationship was found between adult per capita imports of dessert wine and United States dessert wine prices or the three-year average of wine production in Spain and Portugal. It appears that consumers tend to favor imported over domestic dessert wine as their incomes increase. However, the evidence of this apparent favoritism is not conclusive.

The maximum possible reduction in United States tariffs on table wine under terms of the Trade Expansion Act ranges from a total of 18.75 to 31.25 cents per gallon over five consecutive years, depending upon whether the wine is imported in containers of 1 gallon or less or more than 1 gallon. Applied equally over the five years as specified in the Act, the maximum reduction would range from 3.75 to 6.25 cents per gallon in each of the five years. The maximum reductions on Marsala would be 23.5 and 56.0 in total, or 4.7 and 11.2 cents per gallon for each of the five years, depending upon the size of container. The maximum reduction on sherry and still dessert wine other than sherry would be, respectively, 62.5 and 56.0 cents per gallon in total, or 12.5 and 11.2 cents per gallon in each of the five years, irrespective of the size of container in which imports are received. In estimating the impacts of the maximum potential tariff reduction, it was assumed that table wine would continue to be imported almost exclusively in containers of 1 gallon or less. Because a high proportion of dessert wine imports consists of sherry-type wines, the maximum potential tariff reductions for that type of wine were employed in estimating the impacts of tariff reduction on the dessert wine sector in total. Becuuse of the absence of relevant data to estimate the necessary functional relationships, we were unable to estimate the impacts of potential tariff reductions on vermouth and sparkling wines.

On the basis of statistical relationships developed or adopted in this report, it appears that tariff reductions of the magnitude and in the manner authorized in the Trade Expansion Act might, by themselves, result in a moderate increase in imports and a moderate decline in income in the table and dessert wine sectors. The effects in the first year after a reduction of 3.75 cents and 12.5 cents per gallon in the respective tariffs for table and dessert wine might be as follows:

(1) An increase of 137,000 and 17,000 gallons in United States imports of table and dessert wine, respectively.

(2) A decrease of 0.6 and 0.1 cents per gallon in domestic wine prices of table and dessert wine, respectively.

(3) A decrease of $0.3 million and $0.1 million in income received by the domestic wine industry from sales of table and dessert wine, respectively.

Those are the estimated net, or independent, effects stemming solely from tariff reductions in a single year. At the same time as tariff reductions impinge upon the volume of wine imported and upon domestic wine prices, other factors may also be inducing changes in the volume of imports and the level of domestic prices. For example, a rise in per capita income in the United States during the time tariff reductions are being applied could result in a disproportionately large increase in imports relative to the increase in consumption of domestic wines. Thus, the total effect of imported wine upon prices and income in the domestic wine industry could be much greater in a given year than the independent effects of the tariff reduction. Considered over the five years in which such tariff reductions might be applied, the income loss to the domestic industry stemming solely from tariff reductions on table and dessert wine might approach $2 million. If reductions were granted on tariffs for vermouth and sparkling wine, that income loss would likely be augmented.

In addition to the estimated direct price and income effects of tariff reductions, the possibility of indirect or side effects should be recognized. First, because of the interdependency in utilization of grapes among winery, raisin, and table grape outlets, it is possible that direct effects of tariff reductions on the wine sector might be transmitted or shifted, in part or in total, to the other two sectors. Depending upon the extent to which the tariff reductions triggered such reallocation of grapes and the comparative "price-quantity" relationships--price elasticities of demand and supply--in the three

product markets, the ultimate incidence of the tariff reductions on the total grape industry could be greater than, less than, or equal to those estimated above. Empirical estimation of the possible incidence of tariff reductions for wine on the total grape industry was not attempted in this report. It is also possible that the sequential tariff adjustments authorized in the Trade Expansion Act might reinforce the already substantial annual variation in wine production and in prices of grapes for crushing. A tariff reduction is likely to set in motion certain market equilibrating forces; a sequence of reductions might, by itself, induce a series of oscillations in quantities of wine available for consumption and consequently in prices of wine and indirectly in the prices of grapes for crushing. Such variations, or the failure to anticipate correctly the timing and magnitude of sequential adjustments, might create problems in management of wine inventories or even errors in production planning both in the United States and abroad.

In considering the full implications of tariff reductions, it is important to consider under any circumstance the economic complexity of the wine industry. Cognizance should be taken of the possibility that tariff reductions, even if by themselves exerting a small influence on the domestic industry, could in combination with other variables result in large total price and income effects. Even though a reasonably well-balanced rate of growth in production of and total demand for wine appears to be possible during the next five years in the United States and western Europe, the following considerations should not be overlooked:

(1) Even with a reasonably well-balanced average rate of growth in total production of and demand for wine possible in western Europe in the next five years, potential exportable supplies of wine in that area are likely to continue to be comparatively large. A succession of years of high grape production, if coincident in several of the nations in the area, could in particular years result in large increases in exportation of wine from the area even while longer term rates of growth in production and demand were closely similar. It seems that wine-marketing problems in Europe in the next several years are more likely to be those associated with "surpluses" than with "scarcity" in wine supplies.

(2) Because of probable increases in bearing acreage and the likelihood of a continuation in the secular uptrend in grape yield per acre in California, a moderate expansion in wine production in the United States is projected for the next four to five years. If, as projected, increased wine production approximates the growth in total demand for wine in the United States in the next five years, further substantial increases in imports of wine might not be accommodated without a decrease in prices and incomes in the domestic wine industry.

(3) Yet, if per capita income in the United States expands at the projected rate of about 2.5 percent per year and if the income-consumption relationships uncovered by statistical analysis continue to persist during the next five years, a continued disproportionate rate of growth of imports relative to consumption of domestic wine might be expected. Under those assumptions and given an adult population of 115 million in 1967, table wine imports, apart from the effect of tariff reductions on changes in United States table wine prices, might increase by nearly 2.5 million to a total of about 10 million gallons by 1967. Dessert wine imports, under the same assumptions and independent of tariff reductions and changes in foreign wine prices, might increase 150,000 gallons to a total of about 1.6 million gallons by 1967.

In conclusion, the analyses indicate that tariff reductions, by themselves, would induce moderate increases in United States imports of table and dessert wine and moderate decreases in the price of and income received from wine in the United States. There are possibilities of the tariff reduction creating certain side effects unfavorable to the domestic industry. But the principal danger of tariff reductions for the domestic industry lies in the possibility that they might augment the economic effects of other variables which may interact simultaneously to increase imports and decrease domestic wine prices and income.

PART I: INTRODUCTION

On May 21, 1963, delegates to the General Agreement on Tariffs and Trade (GATT) Ministerial Conference at Geneva unanimously adopted a resolution setting forth principles and general procedures pertaining to multilateral trade negotiations to be conducted in 1964 under the auspices of GATT. Among the principles agreed upon were the following:[1/]

(1) "That the trade negotiations shall cover all classes of products, industrial and nonindustrial, including agricultural and primary products."

(2) "That the trade negotiations shall deal not only with tariffs but also with nontariff barriers."

(3) "That . . . the tariff negotiations . . . shall be based upon a plan of substantial linear tariff reductions with a bare minimum of exceptions which shall be subject to confrontation and justification."

The views of the Executive Branch of the United States government regarding the negotiating plan were expressed during the Ministerial Conference by Christian A. Herter, Special United States Representative for Trade Negotiations:[2/]

". . . we are convinced that the fundamental objective of the conference must be to bring about the greatest possible reduction in tariffs and other barriers to trade. Any plan that does not achieve such an objective is less than adequate in our view.

"It is, of course, the firm position of my government that negotiations must include agricultural products. This means that my government will not be prepared to conclude negotiations until equitable tariff and trade arrangements have been developed for agricultural products. This is necessary for the United States as a major agricultural exporting and importing nation."

Although attention has been focused upon the possible nature of negotiations between the United States and the European Economic Community (EEC), the negotiations will involve all of the member countries of GATT. Subject

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1/ As reported in European Community Information Service, European Community, No. 63 (Washington, D. C., 1963), p. 2.

2/ As reported in U. S. Foreign Agricultural Service, Foreign Agriculture, Vol. I, No. 25 (June 24, 1963), p. 5.

to certain constraints of GATT and in United States trade negotiating authority, tariff reductions effected between the U. S. and any other country or group of countries will be extended to all member countries of GATT.

Many important procedural details concerning the negotiations are as yet unspecified. Vital questions remain concerning the extent to which the EEC will be able and willing to negotiate on agricultural products. Yet, as indicated, a general agreement on principles which will guide the negotiations has been reached by the contracting parties. A general commitment to a reduction in tariffs and other trade barriers has been made. Statements of United States officials have indicated clearly that negotiations on agricultural products should constitute an important part of the total negotiations.

It seems probable that the EEC will seek, for the most part, reciprocal United States tariff reductions in nonagricultural products in return for any tariff concessions which the Community may grant. The Community's exports to this country in recent years have been weighted approximately 10 to 1 in favor of nonagricultural products. Yet, in the case of particular agricultural products, the United States does constitute an important export outlet for the Community. For these products, U. S. tariff reductions may be sought.

Wine is one such product. In 1962 the value of wine and brandy imported by the United States from the Community totaled $55.1 million. This represented about 24 percent of the value of all United States agricultural imports from the Community and 87 percent of the value of all wine and brandy imported into the United States in 1962.

The primary objective of this analysis is to assess the potential economic impacts which U. S. tariff reductions would have on the United States wine industry. In particular, the analysis will be directed toward determining quantitatively the effects of tariff reductions upon the volume of U. S. wine imports, the volume of U. S. wine consumed, domestic wine prices, and gross income of the U. S. wine industry. Because of its dominant national position, particular attention will be directed toward the California wine industry. Related and important objectives of the analysis include:

(1) A review of trends and prospects in world production, consumption, and trade in wine.

(2) A review of recent changes in and the current structure of United States wine tariffs.

(3) A review of economic trends and prospects in the United States wine industry.

The analysis will be confined to the post-World War II period. Because the United States position in world trade in wine has been that of a major net importing nation and is likely to remain so in the near future, our analysis has been directed, in major part, to questions posed by possible reductions in United States tariffs. However, some individuals maintain that United States exports of certain types of wine could be increased materially if foreign tariffs and other trade barriers were reduced or eliminated. For that reason, a brief description of foreign tariffs and trade barriers is included in Part II.

Relatively little research of a quantitative, analytical nature has been conducted concerning the impact of tariff adjustments on the United States wine industry. This may be attributed partly to the lack of relevant and accurate data, particularly with respect to foreign wine industries. These same constraints were encountered in this analysis.

Yet, decisions are to be made on the basis of information, data, and imperfect analyses which are available. It is to be hoped that data and analyses contained in this report will facilitate the making of more informed, well-advised decisions than might otherwise occur. This report will serve an equally important function if it indicates some types of data which need to be collected and made available on a systematic, continuing basis.

PART II: WORLD PRODUCTION, CONSUMPTION, AND TRADE

Production

The major wine-producing area of the world is centered in a group of southern European and North African countries bordering the Mediterranean Sea. Six of these countries produced two-thirds of the indicated world production of wine in 1961-62. Wine is produced also in substantial commercial volume in Central Europe, South Africa, and in South America, particularly Argentina and Chile. A comparatively small volume of wine, presumably rice wine, is produced commercially in Japan. Although modest in relation to the volume of production in some other countries, Australia and, to a lesser extent, New Zealand also produce appreciable quantities. North American production is centered largely in California.

Of the 29 countries for which data are available, two countries--France and Italy--are by far the largest producers. Production in each has ranged consistently between 1 and $1\frac{1}{2}$ billion gallons throughout the post-World War II era. In contrast, United States commercial production of wine, excluding wine used as distilling material, has ranged from 104 to 174 million gallons during the same period. Even with the inclusion of distilling material, United States production of wine has seldom exceeded one-third of the production in either France or Italy. In 1961-62 the combined production of French and Italian wine was 2.7 billion gallons or about 46 percent of indicated world production.

The European Economic Community has consistently accounted for a large share of the world production of wine (Table 1). Production in the Six averaged 2.8 billion gallons in 1950-1954, representing 53 percent of average commercial production in the world. By 1955-1959 production in the Common Market had increased 6 percent to 3.0 billion gallons, although its share of world production remained almost constant at 52 percent. Preliminary estimates for 1962 indicate a record-high production of 3.8 billion gallons in the Community.

Algeria, which has been afforded essentially the same commercial trade status in the EEC as the six member countries, also is a large producer of wine. As in the EEC member countries, there has been a moderate increase in production. Algerian production, combined with that in the Six, accounted

TABLE 1

Production of Wine in Selected Countries and Areas[a]

Country or area	Average, 1950-1954	Average, 1955-1959	1960	1961[b]	1962[b/c]
	million United States gallons				
France	1,525	1,543	1,667	1,283	1,941
Italy	1,244	1,578	1,462	1,394	1,796
West Germany	73	71	181	87	104
Total EEC[d]	2,845	2,995	3,313	2,767	3,844
Algeria	412	426	419	413	291
Greece	102	95	77	90	104
Spain	477	487	562	541	569
Portugal	257	261	303	196	390
Other western Europe[e]	46	43	45	50	49
United States					
Including distilling material[f]	399	457	494	515	g/
Excluding distilling material[f]	132	152	170	173	g/
World total	5,384	5,793	6,446	5,865	6,736

a/ Crop year basis.

b/ Converted from hectoliters at the rate of 1 hectoliter equals 26.418 United States gallons.

c/ Preliminary.

d/ Includes France, Italy, West Germany, Belgium, Luxembourg, and the Netherlands.

e/ Austria and Switzerland.

f/ Distilling material is substandard wine produced with excessive water or residue material and used in the production of brandy or high-proof alcohol.

g/ No data available.

Source: Appendix Table 1.

for 61 percent of average world production in 1950-1954, 60 percent of average production in 1955-1959, 58 percent in 1960, and 54 percent in 1961.

Production in Greece, an associate member of the EEC, has declined slightly since 1950. Spain and Portugal, each of which has petitioned the Council of the Community to establish some form of cooperation with the Community, are large producers of wine, particularly dessert-type wines. Production in each country, but particularly in Spain, has been increasing during the past decade. Among other producing nations in Europe, Austria and Switzerland are included. Both applied for associate membership in the EEC during 1962.

Production of wine in the United States and in California also has increased during the decade of the 1950's, although it has remained small in relation to production in France and Italy (Table 1). In relation to world production, the United States share has remained comparatively stable at 8 percent.

In accompaniment with the upward trend in wine production, there have been wide year-to-year variations in production in each of the countries of major production.[1/] In France, for example, successive annual variation in production has ranged from less than 1 percent to as much as 43 percent and averaged 18.1 percent since 1950. Annual variation in Italian production ranged from 2 to 29 percent and averaged 12.4 percent in the same period of time. The probable major cause of these variations lies in the random, short-term variations in weather and other natural conditions during the maturation and harvesting of the grape crop.

As evident from year-to-year variations in consumption and trade data presented in subsequent sections of Part II, interyear storage of wine in Europe is not of a magnitude to offset significantly the wide variations occurring in production. Changes in total consumption and exports of wine appear to be almost as variable as changes in total wine production. This suggests that aggregate exports from such countries as France and Italy are likely to continue to be quite unstable from year to year.

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1/ See Appendix Table 1.

Consumption

Just as western Europe is the world's largest wine-producing area, it is also the largest wine-consuming area of the world. Total and per capita consumption in France and Italy are much higher than in the United States (Tables 2 and 3).

Two significant facts are evident from Table 2. First, there have been wide disparities in per capita wine consumption among the specified countries. Of the nine countries, consumption in the United States and in the Netherlands has been at comparatively low levels. In contrast, per capita consumption in France, Italy, and Portugal has been extremely high in relation to the United States.

Second, per capita consumption in all specified countries has been increasing, with the exception of the United States where it has been remarkably stable in the aggregate and in France where it has become comparatively stable at about 33 to 34 gallons. Italian consumption has increased by nearly 5 gallons per capita (20 percent) since 1950-1954 and, with the exception of France, is the highest among the specified countries. Similar relative increases have occurred in other European countries.

The general upward trend in per capita consumption in Europe, except France, is perhaps attributable to two factors: (1) recovery of production, particularly in Italy, following World War II and (2) the substantial increase in per capita incomes in those countries during the 1950's. The causes for the comparatively static per capita consumption in France are unknown. However, with consumption at very high rates even in the early parts of the 1950's, it may be that increases in real income have occasioned the substitution of other beverages for wine.

Annual wine consumption in the EEC in 1960 and 1961 was approximately 3.2 billion gallons--about 14 percent greater than average annual consumption in 1950-1954 (Table 3). Consumption in each member country trended upward, reflecting increased population and, as indicated previously, generally higher per capita consumption. Relative to the annual average of 1950-1954, consumption in 1961 in the various member countries had increased as follows: the Netherlands, 250 percent; West Germany, 82 percent; Italy, 24 percent; and France, 0.5 percent.

TABLE 2

Per Capita Consumption of Wine in Selected Countries[a]

Country	Average, 1950-1954	Average, 1955-1959	1960	1961
	United States gallons			
France	34.7	34.5	34.1	32.8
Italy	25.1	29.2	29.6	29.6
West Germany	2.1	2.4	3.5	3.4
Belgium	1.5[b]	2.0[c]	[d]	
Luxembourg	7.1	7.6[c]		
Netherlands	0.2	0.4	0.6	0.6
Spain	13.3[e]	15.3[c]		
Portugal	24.3[f]	29.2[c]		
United States	0.9	0.9	0.9	0.9

a/ Crop year basis beginning October 1, except calendar year basis for the United States.

b/ Average of three years, 1950-1952.

c/ Average of four years, 1955-1958.

d/ Blanks indicate no data available.

e/ Average of 1950, 1952, and 1954.

f/ Average of three years, 1952-1954.

Source: Appendix Table 2.

TABLE 3

Total Consumption of Wine in Selected Countries[a]

Country	Average, 1950-1954		Average, 1955-1959		1960		1961	
	Human consumption	Industrial uses	Human consumption	Industrial uses	Human consumption	Industrial uses	Human consumption	Industrial uses
	million United States gallons							
France	1,510	166	1,554	119	1,555	231	1,517	139
Italy	1,190	40	1,419	47	1,465	67	1,473	36
West Germany	105	9	129	29	198	38	191	41
Netherlands	2	[b]	4		7		7	
Belgium	13[c]		17[d]					
Total EEC[e]	2,820	215	3,123	195	3,225	336	3,188	216
Algeria	26		42					
Spain	371[f]		448[d]					
Portugal	206		234[d]					
United States[g]	138		152		163		172	

a/ Crop year basis beginning October 1, except calendar year basis for the United States.

b/ Blanks indicate no data available.

c/ Average of three years, 1950-1952.

d/ Average of four years, 1955-1958.

e/ Sum of consumption in the five specified countries.

f/ Average of three years, 1950-1952, and 1954.

g/ All wine entering distribution channels in the United States.

Sources: Appendix Tables 3-7.

Consumption in the United States in 1961 was 25 percent higher than the average during 1950-1954, principally as a result of increased population. Yet, even at the record-high level of 172 million gallons, United States consumption was equivalent to only 5 percent of that in the EEC.

A large volume of wine is utilized for industrial purposes in Italy, West Germany, and particularly in France. Presumably, low quality wines with excessive water or residue material are allocated to those outlets for distillation and eventual production of industrial alcohol. Although evidence is not available to the authors, this also may serve as an outlet for merchantable quality wines at times of abnormally large supplies or low prices of wine. The 261 million gallons of wine utilized in these outlets in the EEC in 1961 were 26 percent more than all wine entering distribution channels in the United States in that year.

International Trade

The average annual volume of world trade in wine rose by 40 percent between 1950-1954 and 1955-1959. In 1960 and 1961, the volume of wine exports had risen to approximately 715 million gallons--an all-time high. All of the major wine-producing nations of the world, with the exception of the United States and Greece, have recorded increases in export volume. Most of these countries, including the United States, Canada, Great Britain, and those in Scandinavia which are traditionally deficit in production of wine, have also increased their importation of wine. Increased imports by the latter group of countries have probably stemmed from increases in population and per capita disposable income. Increased imports in major wine-producing countries such as France, Italy, and Algeria--even while exports of wine were rising--reflect not only increased demand for wine but the specialization among those countries in production of various types or classes of wine.

Two countries--France and Algeria--account for a large proportion of the wine entering international commerce. The two accounted for 77 percent of world exports in 1950-1954, 64 percent in 1955-1959, and 70 and 62 percent in 1960 and 1961, respectively. The comparable combined shares of world imports were 70, 62, 56, and 64 percent. However, because a large part of this trade

consists of shipment of wine from Algeria to France, gross trade data exaggerate the international importance of Algeria as an exporting nation and France as an importing nation (Table 4).

United States exports of wine remained virtually constant throughout the 1950's and early 1960's at approximately 200,000 gallons--an insignificant part of world exports. However, American imports of wine have increased 130 percent between 1950-1954 and 1962 to 14 million gallons.

Data contained in Table 5 indicate an increased dependency upon export outlets in the disposition of wine supplies in the countries of major production. The volume of international trade in wine rose by 40 percent during the 1950's; wine production increased only 8 percent. These developments reflect product specialization among countries and the increased demand in nations traditionally deficit in wine production.

Of the eight major wine-producing countries, five are net exporters of wine (Table 5). France, because of special bilateral relations with Algeria, appears in a net deficit position throughout the period of observation. However, France and Algeria combined have been net exporters except in 1961. West Germany and the United States have been consistently deficit in wine trade, with the deficit of each increasing throughout the period. However, unlike the United States, West Germany is also a substantial exporter of wine. German production and exports are highly specialized in white table wines. At the same time, even larger amounts of other types of wine--table and dessert--are imported into West Germany.

Of those single countries having a favorable net balance of trade, Italy, Spain, and Portugal each recorded substantial increases in their balance between 1950-1954 and 1955-1959. Italy's favorable balance of trade in 1961 was almost double the average of 1950-1954.

Except for Greece and the United States, all of the major wine-producing countries listed in Table 5 have increased their volume of exports compared to domestic production. Portugal's exports, for example, were equivalent to 22 percent of production in 1961; on the average, 1950-1954 exports were equivalent to only 12 percent of production (Table 6).

Imports relative to total wine consumption have increased appreciably in the United States, West Germany, and in bilaterally related France and Algeria. Imports of the United States, as a percentage of total wine consumption, almost

TABLE 4

Exports and Imports of Wine, Selected Countries[a]

Country	Average, 1950-1954		Average, 1955-1959		1960		1961	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
	million United States gallons							
France	69.8	348.8	77.8	448.6	124.0	411.0	93.0	446.0
Italy	28.4	0.8	47.0	1.4	49.0	1.0	54.0	1.0
West Germany	1.2	42.2	2.6	86.6	4.0	95.0	4.0	109.0
Belgium and Luxembourg	0.2	13.0	0.3	16.0	0.8	18.2	0.4	19.1
Netherlands	b/	2.0	b/	4.4	b/	7.0	b/	7.0
Algeria[c]	319.4	6.7	377.9	6.0	385.3	10.8	346.9	16.2
Greece	6.0	1.1	14.3	0.9	3.3	d/	5.8	
Spain	27.3	1.1	46.0	1.6	31.7		40.4	
Portugal	30.2	1.3	48.4	2.0	42.4		43.1	
United States	0.2	6.1	0.2	9.2	0.3	12.2	0.2	14.0
World total[e]	505.5	509.6	708.9	732.1	717.4	755.8	714.1	720.5

a/ Crop year basis beginning October 1, except calendar year basis for the United States.

b/ Less than 500,000 gallons.

c/ Algerian exports to France averaged 306 million gallons in 1950-1954, 369 million gallons in 1955-1958, and 338 million gallons in 1961. See Appendix Table 21.

d/ Blanks indicate no data available.

e/ Exports and imports not equal because of incomplete data for some countries and measurement errors in data which are reported.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), pp. 845, 898, 905, 909, and 913.

Idem, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), pp. 616-620 and 623-624.

Ibid., Vol. XXXV, No. 378 (Paris, August, 1962), p. 1085.

Ibid., No. 382 (Paris, December, 1962), p. 1684.

Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics (Washington, D. C., annual issues).

Idem, Trade Yearbook (Rome, annual issues).

U. S. Bureau of the Census, United States Exports of Domestic and Foreign Merchandise: Commodity by Country of Destination, Report FT 410, annual issues.

TABLE 5

Wine: Balance of Trade, Exports Relative to Production, and Imports Relative to Consumption in Selected Countries

Country	Average, 1950-1954			Average, 1955-1959			1960			1961		
	Balance of trade a/	Exports as percent of production	Imports as percent of consumption	Balance of trade a/	Exports as percent of production	Imports as percent of consumption	Balance of trade a/	Exports as percent of production	Imports as percent of consumption	Balance of trade a/	Exports as percent of production	Imports as percent of consumption
	million United States gallons			million United States gallons			million United States gallons			million United States gallons		
France	-279.0	4.5	20.8	-370.8	5.8	26.8	-287.0	7.4	23.0	-353.0	7.2	26.9
Italy	27.6	2.3	b/	45.6	3.0	b/	48.0	3.4	b/	53.0	3.9	b/
West Germany	- 41.0	1.7	37.0	- 84.0	3.7	54.8	- 95.0	2.2	69.9	-105.0	4.6	82.6
Belgium and Luxembourg	- 12.8	c/	100.0	- 15.7		94.1	- 17.4			- 18.7		
Netherlands	- 2.0		100.0	- 4.4		100.0	- 7.0			- 7.0		
Algeria	312.7	77.5	25.8	371.9	88.7	14.3	374.5	91.9		330.7	84.0	
Greece	4.9	5.9		13.4	15.0			4.3			6.4	
Spain	26.2	5.7	0.3	44.4	9.4	0.4		5.6			7.5	
Portugal	28.9	11.8	0.6	46.4	18.5	0.9		14.0			22.0	
United States	- 5.9	b/	4.4	- 9.0	b/	6.1	- 11.9	b/	7.5	- 13.8	b/	8.1

a/ Exports minus imports. Negative sign indicates deficit in international trade.

b/ Less than 0.5 percent.

c/ Blanks indicate no data available.

Sources: Tables 1-4.

TABLE 6

Percentage Distribution of Wine Exports from Selected Producing Countries

Country	To EEC countries					To other western Europe					To the United States				
	Average, 1950-1954	Average, 1955-1959	1960	1961	1962	Average, 1950-1954	Average, 1955-1959	1960	1961	1962	Average, 1950-1954	Average, 1955-1959	1960	1961	1962
	percent														
France[a]	35.2	53.4	55.3	31.9	50.1	25.2	23.0	21.9	14.3	16.8	4.9	5.6	5.1	2.9	3.5
Italy	19.4	43.3	52.8	54.4	b/	42.5	35.0	33.6	31.1		6.4	7.0	6.3	7.1	
West Germany	27.3	12.5	11.8	12.8	11.1	36.4	33.3	38.2	35.9	36.1	18.2	25.0	26.5	30.8	27.8
Benelux	92.3	63.6				c/	c/				c/	c/			
Total EEC	29.3	47.6	53.1	40.9	48.6	32.4	28.8	27.8	21.8	17.5	5.6	6.7	6.2	5.3	4.5
Algeria	93.3	79.5		97.6		0.6	0.3		0.4						
Greece	15.0					70.0									
Spain	27.4	31.7	27.5	31.4		27.4	36.6	24.7	24.9						
Portugal	13.6	19.8	9.4	11.4	16.5	10.0	7.9	3.9	7.0	5.1					

a/ Virtually all of the remainder of French exports go to Algeria and overseas territories.

b/ Blanks indicate no data available.

c/ Less than 0.1 percent.

Sources: Calculated from data in Appendix Tables 16-24.

doubled between the average of 1950-1954 and 1961--from 4.4 to 8.1 percent. Imports, as a percentage of total consumption in West Germany, rose from 37 to 83 percent in the same period of time. Imports in the remainder of the specified countries have remained quite stable and at low levels in relation to total wine consumption.

Exports from the EEC to the United States represent a small proportion of the Community's total wine exports. Individually, the United States market consistently has absorbed more than 10 percent of exports only for West Germany. To a very large extent, European wine trade has been an intra-European trade generated by specialization in production of different types and classes of wine. White wines, for example, make up a large part of exports from West Germany. A large volume of vermouth is exported each year from Italy. A variety of red wines is exported from France. Spain and Portugal are best known in this country as exporters of dessert-type wines--port and sherry in particular.

Tariffs and Trade Barriers

United States tariffs on wine have declined appreciably from the levels prescribed in the Tariff Act of 1930, as amended. However, the extent of reduction and the current duty vary considerably among different classes of wine. There are variations also for a given class of wine, depending upon the size of containers in which imports are received (Table 7).

In relation to the rates prescribed in the Tariff Act of 1930, the current tariff for table wine has been reduced 70 percent if imported in containers of 1 gallon or less and 50 percent if imported in containers of more than 1 gallon. Comparable reductions on Marsala and vermouth have been 66 percent and 10 percent and 79 percent and 68 percent, respectively. Tariffs on other dessert wine and on champagne and other sparkling wine have been reduced 20 percent and 75 percent, respectively, since 1930.

A better measure of the economic magnitude of wine tariffs can be obtained by transforming the foregoing specific tariffs into their ad valorem equivalents (Table 8).

TABLE 7

United States Tariffs on Wine Produced from Grapes

Still table wine[a]			Marsala[b]			Still dessert wine except sherry[b]		
	Container			Container			Container	
Effective date	1 gallon or less	Over 1 gallon	Effective date	1 gallon or less	Over 1 gallon	Effective date	1 gallon or less	Over 1 gallon
	cents per gallon			cents per gallon			cents per gallon	
T. A. 1930[c]	125.0	125.0	T. A. 1930[c]	125.0	125.0	T. A. 1930[c]	125.0	125.0
6/15/36	75.0	d/	11/17/51	62.5		7/1/62	112.0	112.0
1/1/48	40.0	75.0	6/30/56	60.0		7/1/63	100.0	100.0
6/6/51	37.5	62.5	6/30/57	56.0				
			6/30/58	53.0				
			7/1/62	47.0	112.0			
			7/1/63	42.0	100.0			

Still dessert wine, sherry type[b]			Vermouth			Champagne and other sparkling wines		
	Container			Container			Value of import	
Effective date	1 gallon or less	Over 1 gallon	Effective date	1 gallon or less	Over 1 gallon	Effective date	$6.00 or less	Over $6.00
	cents per gallon			cents per gallon			dollars per gallon	
T. A. 1930[c]	125.0	125.0	T. A. 1930[c]	125.0	125.0	T. A. 1930[c]	6.00	6.00
7/1/63	112.0	112.0	6/15/36	62.5		6/15/36	3.00	3.00
1/1/64	100.0	100.0	1/1/48	50.0	75.0	1/1/48	2.00	1.50
			5/30/50	31.2	62.5	6/6/51	1.50	
			6/30/56	29.0	58.0			
			6/30/57	28.0	53.5			
			6/30/58	26.5	49.0			
			7/1/62		44.0			
			7/1/63		40.0			

a/ Not over 14 percent absolute alcohol.

b/ Over 14 but less than 24 percent absolute alcohol.

c/ Rates under Tariff Act of 1930, as amended.

d/ Blanks indicate no change from previously effective tariff.

Sources: Records on file in the United States Custom House, U. S. Treasury Department, San Francisco, and information supplied by the U. S. Foreign Agricultural Service, Washington, D. C.

TABLE 8

United States Ad Valorem Equivalent Tariffs on Wine[a]

Class of wine	Average, 1950-1954	Average, 1955-1959	1960	1961	1962
	percent				
Still table					
1 gallon or less	14.8	12.8	12.5	12.4	11.8
Over 1 gallon	24.7	23.0	32.6	50.0	20.6
All	14.8	12.8	12.5	12.4	11.8
Still dessert[b]					
1 gallon or less	30.2	24.5	22.3	21.6	23.4
Over 1 gallon	40.2	33.6	32.0	33.0	41.4
All	31.1	25.4	23.1	22.0	24.9
Vermouth					
1 gallon or less	10.2	8.5	7.7	8.0	8.0
Over 1 gallon	45.4	46.5	52.7	49.0	46.5
All	10.4	8.7	7.9	8.0	8.1
Champagne and sparkling wine					
$6.00 or less	38.4	38.0	43.4	44.9	44.5
Over $6.00	17.3	14.8	13.8	13.4	13.6
All	23.7	22.0	23.9	24.1	25.2

a/ Calculated as follows: Specific tariffs from Table 7 as a percentage of average declared value of imports for each year or part thereof, 1950-1962. Averages for 1950-1954, 1955-1959, and aggregate ad valorem equivalent for each class of wine are weighted by volume of imports of relevant classes and in relevant containers.

b/ Tariff on Marsala excluded. Volume of imports used in obtaining weighted ad valorem tariff includes all dessert wine.

Sources: Special tariffs from Table 7. Average declared value of imports from U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

Changes in ad valorem equivalent duties, as reported above, reflect changes in both the level of specific tariffs and the declared value of imports. For example, the ad valorem equivalent tariff on table wine in containers of 1 gallon or less has declined from the average of 1950-1954, even though specific tariff rates have been maintained at 37.5 cents per gallon since 1951. The decline results from the increased declared value of these imports. The reverse was true between 1955-1959 and 1960-61 for table wines in containers of over 1 gallon; ad valorem tariffs increased as the declared value of imports declined and the level of specific tariffs remained unchanged.

The aggregate ad valorem duties reported in Table 8 for each class of wine should be interpreted carefully. Because they are weighted averages, they reflect heavily the relatively large volume of imports in containers of 1 gallon or less as well as changes in specific tariffs. For example, the aggregate duty on table wines is practically identical to that for table wines in containers of 1 gallon or less; virtually all table wine is imported in containers of that size. Perhaps more wine has not been imported in containers of over 1 gallon because of the relatively high tariff on such containers. Thus, it would be somewhat misleading to conclude that ad valorem tariffs on table wine, as such, have declined when the rate of duty on wine in containers of over 1 gallon has trended upward.

Duties on wines imported in bottles for direct retail distribution (containers of 1 gallon or less) have declined substantially for table, dessert, and vermouth wines and in ad valorem terms are low in relation to United States duties on some other agricultural products. There have been much smaller reductions or, in some cases, even slight increases in the ad valorem duties on imported bulk wines (containers over 1 gallon). Compared to bottled wines, current ad valorem tariffs on bulk wine are high. Tariffs on champagne and sparkling wines generally are somewhat higher than for still wines.

Unlike some other wine-producing nations, the United States imposes no quantitative restrictions or quotas on importation of wines. Imported wines must, however, meet certain standards of purity or quality as specified in the Food, Drug, and Cosmetic Act. Minimal labeling requirements on bottled wine imports also are maintained.

We have indicated previously that the United States is not a major exporter of wine. However, the California wine industry has a renewed interest in the possibilities of further developing export markets in various parts of the world, including western Europe, Central and South America, and the Far East. Interest has been spurred as a result of accumulation of stocks of wine, particularly dessert wines, under a federal marketing order applied during the past two years to grapes for crushing in central California. For that reason and to compare United States tariffs with those in other countries of the world, a brief outline of world trade barriers and tariffs is reported in Table 9.

A variety of devices to protect domestic wine industries exists in various countries. They include specific and ad valorem tariffs, quotas, special levies, and antidumping clauses applying to world trade in wines. Unfortunately, more current information and data than that contained in Table 9 were not available to the authors from sources within the United States. Thus, we have been unable to determine the extent to which tariffs and other protective devices listed above may have been modified by evolution of the common agricultural and wine policies of the EEC, the revitalizing of the "Outer Seven" (European Free Trade Association [EFTA]), and development of the Latin American Free Trade Association. It is known that member countries of the EEC will enjoy ultimately preferential tariff duties on intra-Community movement of wine. Presumably, the same type of preferential treatment will prevail among the member countries of EFTA.

Assuming that major changes have not occurred, it is apparent that the general level of wine tariffs in the countries cited in Table 9 is substantially higher than in the United States. The extreme example is Mexico, where an ad valorem tariff of 100 percent and a specific tariff of 10 to 30 pesos per kilogram virtually preclude exportation of wine to that country. Similarly, highly restrictive tariffs exist in Portugal and Greece. In addition, each of the major wine-producing nations in Europe has provisions for use of import quotas.

The Madrid Agreement is a unique multilateral arrangement pertaining to appellation by origin of wine entering international trade. The Agreement, signed in 1891 by 18 countries, had as its basic objective the protection of

TABLE 9

Wine Tariffs and Other Trade Barriers in Selected Countries[a]

Country	Tariff[b]			Quota[c]	Madrid Agreement[c]	Other
	Table wine	Dessert wine	Sparkling wine			
France[d]	NF, 59.24 per hl.	NF, 181.43 per hl.	NF, 124.06 per hl.	x	x	(1) Special surtax on alcoholic beverages.
Italy	45%	45%	90%	x	x	(1) Antidumping duties. (2) Duty on French champagne--40%.
West Germany	DM, 122.05 per hl.	DM, 96.75 per hl.	DM, 258.00 per hl.	x	x	(1) Antidumping duties.
Benelux	G, 55.60 per hl.	G, 24.25 per hl.	G, 144.80 per hl.	x		
Greece	DR., 100 per 100 kg.	DR., 210 per 100 kg.	DR., 250 per 100 kg.			(1) Duties paid in "metallic" drachma (1 metallic drachma = 12 official drachmas).
Spain	30%	30%	Peseta, 50 per liter		x	
Portugal	Escudo, 16 per kg.	Escudo, 16 per kg.	Escudo, 40 per kg.		x	(1) Preferential duties for EFTA. (2) Duties paid in gold escudos (1 gold escudo = 24.45 official escudos).
Canada	Can. $.625 per imperial gal. plus 30%	Can. $.625 per imperial gal. plus 30%	Can. $.33 per bottle plus $1.75 per imperial gal. plus 30%			(1) Antidumping duties. (2) Provincial monopolies for distribution.

(Continued on next page.)

Table 9, continued.

Country	Tariff[b]			Quota[c]	Madrid Agreement[c]	Other
	Table wine	Dessert wine	Sparkling wine			
Japan	Yen, 400 per liter	Yen, 400 per liter	Yen, 650 per liter	x[e]	x	
Mexico (5/62)	Peso, 10 per kg. plus 100%	Peso, 15 per kg. plus 100%	Peso, 30 per kg. plus 100%			(1) Imports of bulk wine prohibited. (2) Import fees. (3) Registration of imports. (4) If produced domestically, importer must export like amount of domestic goods.
United Kingdom (5/59)	£ 1-4-6 per imperial gallon	£ 1-9-6 per imperial gallon	£ 1-15-6 per imperial gallon	x[f]		(1) Bilateral treaty with Portugal protecting port. (2) British Commonwealth preferential duties.
Venezuela (5/62)	B, 4.00 per kg.	B, 12.00 per kg.	B, 18.00 per kg.			(1) Registration of imports.

a/ As of 1963 except as specified for Mexico, the United Kingdom, and Venezuela. The structure of tariffs and other trade barriers in most foreign countries is highly complex. Those included in this table are not necessarily a complete listing of the barriers but do represent the most important ones.

b/ Tariffs expressed in percentage are ad valorem; others are specific tariffs expressed in terms of the various national currencies.

c/ x indicates applicable.

d/ Includes Algeria.

e/ Government prepares semiannual import budget allocating funds for imports.

f/ Limits importation of alcoholic beverages from dollar area to reasonable volume.

Sources: Wine Institute, Analysis of Foreign Markets Relating to Legal and Import Requirements and Restrictions (San Francisco, 1962), 57p., and information supplied by the U. S. Foreign Agricultural Service, Washington, D. C

consumers from misrepresentation on wine labels as to the origin of wine.[1/] The Agreement, developed from an even earlier agreement in 1883 (the Paris Convention), has been amended several times. The most important amendment was made at the Lisbon Conference of 1958. Although still referred to in the United States as the Madrid Agreement, it is now referred to in European wine literature as the Lisbon Agreement. Ten producing countries were signatories to the Agreement as amended at Lisbon.[2/] It is honored in a number of other smaller wine-producing nations and in several importing nations. The United States was not a signatory nor does it invoke provisions of the Agreement with respect to imported wines.

Briefly, the Agreement provides for:

(1) International registration of wine appellations by place of origin in producing countries. The name "port," for example, is reserved to wines produced in Portugal. The name "Chianti" is reserved to wines produced in the province of Toscana, Italy. Wine may be labeled "Sauterne" only if it is produced in the Bordeaux region of France.

(2) Agreement among participating countries that wine entering commerce in those countries will be labeled in accordance with internationally registered appellations of the type indicated above.

In granting registry of appellation, the wine is identified with respect to certain qualities or "characters" as well as geography of origin.

The net result of the Agreement is the provision of exclusive "labels" to member countries in the marketing of designated wines. France alone has international registration of more than 200 different appellations or labels.

The effects of the Agreement on international trade are difficult to assess. To some extent, it may have encouraged more uniformity in product characteristics than would result otherwise. Because of the large number of appellations and the natural specialization in production of various types of wine which occur among countries or among areas within a country, it may not

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1/ Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris, Imprimerie Alençonnaise, 1960), Chap. IV, pp. 986-1028.

2/ Spain, France, Italy, Hungary, Portugal, Rumania, Czechoslovakia, Morocco, Israel, and Cuba.

have restricted greatly the total volume of trade among participating countries. It does, however, constitute an important trade barrier for some nonsignatory wine-producing countries which might wish to develop export markets in the participating countries. For example, California wines labeled with generic names, such as Burgundy, Chablis, Sauterne, and others, cannot be sold in countries adhering to the Agreement, no matter how clearly the American origin of the wine may be designated.

On the other hand, certain countries such as Canada and the United Kingdom are not adherents to the Agreement. Thus, the Agreement does not preclude development of those markets by California or other American vintners.

Supply and Demand Prospects in Foreign Countries

Data contained in the foregoing sections of Part II have established the direction and magnitude of trends and changes in production, consumption, and trade in wine in major wine-producing countries and in the world as a whole during the period 1950-1962. Briefly, the following points were set forth:

(1) There has been a substantial increase in production of wine in the important wine-producing nations of the world (8 percent between 1950-1954 and 1955-1959). As is customary for perennial crops, there have been wide year-to-year fluctuations in total wine production.

(2) Per capita consumption of wine differs widely among nations, being relatively high in Europe and low in the United States. Per capita consumption rates have been increasing in several European countries but have been notably stable in France in recent years and in the United States throughout most of the period for which data are available.

(3) Total consumption of wine has trended upward in most countries, reflecting enlarged population and the per capita consumption trends referred to above. World consumption rose 10 percent between 1950-1954 and 1955-1959.

(4) The volume of world trade in wine has increased even more rapidly than production (40 percent between 1950-1954 and 1955-1959). A proportionally larger part of total wine production is being exported from such countries as France, Italy, Spain, and Portugal. In other countries, notably the United States and West Germany, imports have increased sharply in absolute volume and relative to total wine consumption. Total exports of the major wine-producing nations, and thus world imports, have varied widely from year to year in correlation with variations in wine production.

Economic adjustments to changes in tariffs usually occur gradually. Customs and habits of consumption seldom are changed easily or quickly. Distribution facilities must be acquired or altered to accommodate any changes in volume of trade which might be engendered by tariff adjustments. Accordingly, in appraising the impact of possible United States tariff adjustments on the domestic wine industry, it is appropriate to examine prospective longer run supply and demand conditions in other parts of the world, particularly in the major wine-producing and consuming areas of western Europe.

The production of wine is, of course, dependent upon the available supply of grapes for crushing and, in turn, upon the acreage of grapes in bearing. Numerous economic factors impinge upon growers' decisions to plant grapes. Among these are public policies to encourage or discourage planting and production of particular crops through subsidies, price supports, credit and trade policies, and a variety of other devices which affect input costs and product prices. The wine policy of the EEC is of particular interest for the purposes of this study.

Like other perennial fruit crops, production adjustments are not easily or quickly made after the grapevine has been planted. It is not uncommon for the vine to be maintained in production for several decades. Harvesting will continue in the short run as long as prices exceed variable harvesting costs. Because of the time required to bring new acreage into bearing and the relative "fixity" of the existing production base, it is sometimes possible to make useful projections of average production of perennial crops, given information on the age distribution of nonbearing and current bearing acreage.

Unfortunately, data concerning recent plantings of grapes in Europe and most other parts of the world are either incomplete or wholly lacking. It is therefore extremely difficult to venture any quantitative estimates of future grape and wine production in Europe. Perhaps the best that can be done under these circumstances is to examine acreage trends of the recent past and the size of the current production plant.

The acreage planted to grapes in the world in 1960 was about 16 percent greater than the average of 1950-1954. Acreage in each of the major producing nations of Europe increased, with the exception of France, Algeria, and Greece. In total, acreage in the EEC increased by about the same relative amount as in the world because of a sizeable expansion in Italy and West

Germany. Although the acreage in Spain in 1960 was larger than in any other of the specified nations with the exception of Italy, the rate of increase in Spain between 1950-1954 and 1961 was somewhat less (9 percent) than in the EEC. California acreage represented about 2 percent of the world total in 1960--approximately the same as in 1950-1954 (Table 10).

TABLE 10

Acreage Planted to Grapes in Selected Countries[a]

Country or area	Average, 1950-1954	Average, 1955-1959	1960	1961
	thousand acres			
France	3,729	3,627	3,613	[b]
Italy	4,203	4,273	4,416	4,423
West Germany	158	173	193	195
Luxembourg	3	3		
Total EEC	8,093	8,076	8,222	
Algeria	992	940	909	
Greece	555	561	544	
Spain	3,923	3,990	4,265	
Portugal	693	756	798	
California	484	440	462	470
World total	21,547	22,802	24,957	

a/ Presumably includes nonbearing acreage.

b/ Blanks indicate no data available.

Source: See Appendix Table 25.

A continuation of the acreage trends of the 1950's would result in a gradual expansion of acreage in most of the major producing nations. Even if acreage remained at present levels, it is probable that European production would average somewhat higher in the next decade than in the 1950's because of increasing yield per acre. Although not directed specifically to grapes, the following comments indicate a growing European production potential for fruits in total: "There seems to be no doubt, however, that fruit production on the whole has been growing rapidly in the past ten years and is becoming more and more commercialized. It can be expected that a greatly increased output from

new plantings on a large scale will be reaching the market within the next few years."[1]

The determinants of total wine consumption are consumer tastes and preferences, real per capita income, the price of wine relative to substitute beverages, and total population. The authors have been unable to uncover any evidence concerning the magnitude of price and income elasticities for wine in Europe. On the basis of admittedly incomplete data, the income-expenditure elasticity for alcoholic beverages in western Europe as a whole has been estimated at 0.8.[2] On the basis of that coefficient and a projected 46.7 percent increase in expenditures for all commodities, Dewhurst estimated an increase of 37.4 percent in expenditures for all alcoholic beverages between 1955 and 1970. No attempt was made to project expenditures for wine.

Limited and, again, crude projections of per capita and total consumption of wine in the EEC have been issued by the Community.[3] Per capita consumption in France was projected to increase between 6.1 and 9.5 percent between 1955-1957 and 1965. Total wine consumption was projected to rise between 12.3 and 15.9 percent. Comparable projections for Italy indicate a 14.5 to 20.0 percent increase in per capita and a 20.2 to 25.9 percent increase in total consumption. Projections were not attempted for the remaining four member nations.

Accepting Dewhurst's expenditure elasticity and assuming that wine will continue to constitute the same proportion of total consumption of alcoholic beverages as in the past and on the basis of the EEC's estimates of the compound rate of growth in total consumption expenditures as reported in Table 11, the projected consumption expenditures for wine in the EEC in 1970 would be 39 to 47 percent higher than in 1960-61. With constant wine prices, total consumption in the Community would range between 4.5 and 4.7 billion gallons in 1970.

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1/ Food and Agriculture Organization of the United Nations, European Agriculture in 1965 (Geneva, 1961), p. 89.

2/ J. Frederic Dewhurst et al., Europe's Needs and Resources: Trends and Prospects in Eighteen Countries (New York: Twentieth Century Fund, 1961), p. 211.

3/ Communaute Economique Europeenne, Tendances de la Production et de la Consommation en Denrées Alimentaires dans la C.E.E., Etude: Serie Agriculture, Nr 2 (Bruxelles, 1960), p. 58.

TABLE 11

Past and Projected Trends in the Growth of Population and Gross National Product in Selected Countries and Areas

Country or area	Population		Gross national product per capita			Gross national product		
	Past trends, 1950-1959	Projected trends, 1958-1970	Past trends, 1950-1959	Projected trends 1958-1970		Past trends, 1950-1959	Projected trends, 1958-1970	
				Low	High		Low	High
	percent per year, compound rate							
North America	1.9	1.8	1.2	1.3	2.5	3.1	3.1	4.4
Australia and New Zealand	2.3	2.0	1.6	1.0	2.0	3.9	3.0	4.0
Western Europe	0.8	0.7	4.2	3.5	4.5	5.0	4.2	5.2
EEC	0.9	0.7	4.9	3.9 a/	4.7 a/	5.8	4.7 a/	5.5 a/
Mediterranean countries	1.0	1.0	5.9	3.9	5.2	6.9	4.9	6.2
Other western Europe	0.5	0.4	2.6	2.3	3.3	3.1	2.7	3.7
Japan	1.3	0.7	6.1	5.3	6.3	7.5	6.0	7.0

a/ Projections refer to total consumption expenditure and not to gross national product. They are based on provisional estimates of the EEC Secretariat.

Source: Food and Agriculture Organization of the United Nations, Agricultural Commodities--Projections for 1970 (E/CN.13/48/CPP.62/5) (Rome, 1962), p. iii. (Special Supplement to Commodity Review, 1962.)

Whether consumption of wine will be maintained relative to that of other alcoholic beverages is uncertain. A rise in relative wine prices might possibly reduce consumption from the levels projected above. Conversely, if production of wine increased rapidly and relative wine prices declined, consumption might even exceed the levels specified above. In addition, there is a question as to the effect of income on wine consumption. Dewhurst comments as follows: ". . . as incomes rise it is possible that demand will shift somewhat from the lower to the higher priced forms of alcoholic beverage. . . ."[1/] Presumably, this could mean a substitution of other alcoholic beverages for wine as well as substitution of higher priced for the lower priced "common" wines. The possibility of a slower expansion in consumption than indicated in the foregoing projections is supported also by the comparatively static per capita consumption in France in recent years.[2/] Finally, there is the question as to whether the relatively high levels of economic activity projected by the EEC Secretariat (Table 11) will be attained. Recent data suggest that growth in economic activity in the Six has decreased relative to that in the last half of the 1950's. For these reasons, the foregoing projections should be accepted and utilized judiciously.

Total consumption in other parts of Europe, although low in relation to that in the EEC, also is likely to undergo a substantial increase in the next seven years. Data in Table 11 suggest a slightly higher relative increase in Mediterranean countries and a moderately lower relative increase in other parts of western Europe than in the EEC. In 1970, consumption in Spain and Portugal combined would approximate 1 billion gallons, as compared to 682 million average in 1955-1959. Total consumption in the other countries of western Europe--Great Britain, Sweden, Switzerland, and Austria--would, on the basis of these projections, approach 135 million gallons by 1970.

A provisional agreement on a Common Market policy for wine was adopted on January 14, 1962.[3/] The agreement, like other parts of the Community's

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1/ Dewhurst et al., op. cit., p. 211.

2/ Table 2.

3/ See European Economic Community, Regulations and Decisions in the Field of Agriculture Adopted by The Council on 14 January 1962 (Brussels? 1962), p. 63.

common agricultural policy, has as its objective the ultimate establishment of common national public policies for the grape and wine sectors and the gradual removal of barriers to trade in wine among the member countries.

The agreement contains explicit recognition of several prevailing conditions in the wine industries of Europe: (1) widely divergent national policies for grapes and wine, (2) the existence of "permanent surpluses" of wine in certain producing nations, (3) the desirability of promoting production of higher quality wines, and (4) the need for more complete production and marketing data for wine.

As a beginning in the evolvement of a common wine policy, the agreement provides for the following:

(1) Establishment of common rules and regulations governing the production and marketing of "quality" wines.

(2) Establishment of quotas to regulate intra-Community movement of wine. France, West Germany, and Italy will each provide access for wines of specified types produced in other member countries within the limits of specified quotas.

(3) Collection of specified types of production and marketing data to be made available before June 30, 1963, and kept up-to-date thereafter.

The agreement did not include provisions for regulation of imports from nonmember countries, nor did it specify the manner in which wine imported from associated countries would be treated.

For the reasons developed earlier in this report and as indicated clearly in the provisional agreement, the Community is concerned principally with internal and not external matters relating to wine production and trade. Whatever implications the agreement may hold for the United States wine industry, they would seem to be indirect, in that nothing was enunciated in the agreement with respect to EEC exports to nonmember countries.

To the extent that the Community is able to reduce chronic wine surpluses, create more orderly conditions in marketing, and improve wine quality, the agreement may be of indirect benefit to the United States industry. However, it is likely that achievement of such results will require many years. And it is unclear and uncertain at this time as to what course of action the Community may take to solve its wine "surplus" problems. Policies to encourage withdrawal of excess production resources from the grape and wine industry would seem to be in order. An alternative would be to discriminate between the market of the

Community and world markets by subsidizing or otherwise disposing of surpluses in export outlets. Depending upon which policy is followed, implications for the United States wine industry differ. In the meantime, it seems reasonable and probable that the Community will be reluctant to admit imports of wine from the United States or any other nonmember nation.

Projection of the future course of economic events is, at best, hazardous. For various reasons, explicit and implicit, referred to previously, it is impossible to project the future magnitude of most of the critical variables which bear upon economic conditions in foreign wine industries. However, with physical surpluses of wine currently existing in Europe and explicitly recognized by the Europeans as a source of economic difficulties, with a large production potential existing even without a further expansion in grape acreage, it seems probable that the major problems of the European wine industry will continue to be those associated with surplus rather than shortages of wine--at least in the short-run context of the next few years. In a longer run context, the prospects for an expansion in demand for wine in Europe are promising. It remains to be seen whether supplies of wine will be brought into reasonable balance with this growing demand at prices at or near current levels and whether the Europeans will attempt to solve or mitigate intervening surplus problems by encouraging transfer of resources out of the grape and wine industries rather than disposal of surpluses on world markets.

PART III: THE UNITED STATES WINE INDUSTRY

Grape and Wine Production

Grapes are produced commercially in 19 states of the United States. California, however, is by far the largest producer, accounting consistently for more than 90 percent of all grapes produced in the nation since 1947. Almost all wine produced commercially in the United States is made from grapes. California is, therefore, dominant in national wine production, accounting for 90 to 92 percent of the total in the years immediately following World War II and 83 to 85 percent during the past three years. Because California dominates in the national industry and more complete data are available, our description and analysis of economic relationships in the wine industry pertain largely to California.1/

Three types of grapes are produced in California: raisin, table, and wine. The annual farm value of this production has ranged from $80 to $173 million and averaged $127 million during 1947-1962. Growers' receipts from grapes crushed have ranged from $24 to $79 million, or 29 to 50 percent of cash income from all grapes during that period. The total grape crop has consistently ranked second in value among all crops produced in California and has represented from 4.5 to 6.0 percent of total cash farm income in the state.

All three types of grapes are used extensively in the production of wine. Generally, more than one-half of the table varieties, more than one-third of the raisin varieties, and in excess of 85 percent of the wine-type grapes produced in California find their way into crushing outlets for the production of wine and brandy. Because of the substitutability of the principal grape varieties between two or more outlets--fresh table grapes, raisins, or wine--grape prices and general economic conditions are highly correlated among the three sectors of the total grape industry. For example, expectations of low prices for raisins or fresh grapes or unfavorable weather during the time of the raisin grape lay has resulted in diversion of those grapes to wineries, with consequent effects upon prices of grapes for crushing and production and prices of wine. In describing recent trends and assessing future economic

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1/ Annual data for this section are contained in Appendix Tables 26-40.

prospects for the wine industry, it is necessary to consider simultaneously developments for raisin and fresh grapes.

Total bearing acreage of grapes in California declined continuously from the post-World War II high of 496,636 acres in 1949 to 399,000 acres in 1957. Then, following the relatively heavy plantings of the latter half of the 1950's, bearing acreage increased in each of the past six years to the preliminary estimate of 449,200 acres for 1963. Similar trends occurred in the bearing acreage of each of the three varietal classes--substantial decline from the levels immediately after World War II, with recovery in recent years--but with differences in timing of the cycles. The bottom of the decline in raisin-type grapes occurred in 1956, in 1957 in the case of table-type grapes, but not until 1959 in wine varieties.

Per-acre yield of grapes has continued its long-term rise with substantial year-to-year variations. On the average, the decennial rate of increase on a fresh weight basis has been 1.7 tons per acre for table varieties, 1.2 tons per acre for raisin varieties, and 0.7 tons per acre for wine varieties during the period 1932-1962. Yield averaged 5.6 tons per acre for grapes as a whole in the five years 1947-1951; in the most recent five years, the comparable average was 6.7 tons per acre.

Grape production in California has varied widely from year to year since 1948. Record-high production of 3.2 million tons was achieved in 1951. The smallest production in the period was 2.3 million tons in 1954. Annual variation averaged 11 percent in the 15 years.

Although there has been no pronounced secular trend in postwar total grape production, there have been two short-run cyclical movements in production. The first, extending from 1947-1949 to 1957, was one of declining production--from 2.7 million tons average in 1947-1949 to a low of 2.4 million tons in 1957. During the past five years, production has risen to an average of nearly 2.8 million tons per year. In these 15 years, production of raisin grapes has trended upward, table grape production declined, and production of wine-type grapes has been comparatively static.

Nonbearing grape acreage in California totaled 30,207 in 1962. That was equivalent to nearly 7 percent of the acreage in bearing in that year. Although nonbearing acreage has been declining during the immediate past three years, it is still at a high level relative to that just prior to the expansionary phase

of the late 1950's.[1/] Barring a substantial increase in removal of vines now in bearing, a slight increase in bearing acreage, perhaps about 1 percent, may be expected during each of the next three or four years.

It also seems probable that yield per bearing acre will continue its secular rise during the next few years. Approximately 58 percent of the nonbearing acreage is composed of raisin-type grapes, for which per-acre yield is usually substantially higher than in the case of table- or wine-type grapes.

For these reasons, it is probable that California's grape production potential will expand during the next three or four years. However, the rate of expansion will probably be less than that of the past five years because of the expected lesser increase in bearing acreage than occurred between 1958 and 1962. Of course, the usual annual variations in total grape production can be expected to persist.

The volume of wine and brandy produced is directly and positively correlated with the volume of grapes crushed and, in turn, with total production of grapes. Production of wine and brandy reflects, therefore, much of the short-term instability in total production of grapes referred to above. An additional source of short-term instability in wine production emanates from variations in the utilization of each class of grapes. Thus, while annual variations in total grape production averaged 11 percent, the annual variation in wine production was 21 percent in the 15 years beginning with 1948. These variations have induced closely corresponding inverse variations in prices of grapes delivered by growers for crushing and have been the source of wine inventory management problems for vintners.[2/]

Although there has been no discernable secular trend in total grape production since 1948, the volume of grapes crushed and thereby the volume of wine produced have increased appreciably in that period. In the five years 1947-1951, the crush averaged 1.2 million tons; in 1958-1962, the average of 1.4 million tons crushed was nearly 15 percent greater. This increase reflects

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1/ See Appendix Table 26.

2/ See Appendix Table 30.

the growing importance of winery outlets in growers' disposition of grapes, particularly raisin-type grapes. In the aggregate, close to 50 percent of total grape production has been crushed in recent years; in the late 1940's, the comparable proportion crushed ranged from 35 to 40 percent.

Within the aggregate changes in grape production and utilization cited above, the volume of raisin-type grapes crushed has increased appreciably from an average of 441,000 tons, or 34 percent of all grapes crushed in 1947-1951, to 646,600 tons, or 45 percent of all grapes crushed in 1958-1962. The volume of table grapes crushed has declined in both absolute and relative terms. Crushing of wine-type grapes has exhibited no trend in absolute terms but has declined moderately as a percentage of the total crush.

Gross production of table and dessert wine, including wine used in the production of vermouth, other special natural wines, and sparkling wines, averaged 127 million wine gallons in 1947-1951; in 1958-1962, the average was 149 million wine gallons. Although gross wine production data are not available for states other than California, it is apparent from shipment data that total production in those states has been increasing more rapidly than in California. Yet, California continues to account for slightly more than four-fifths of the national total.

In summary, it is probable that the production of wine in California will continue to increase at a moderate rate during the next three or four years. As in the past, such an expansion will likely be accompanied by considerable variation in the annual volume of production. To assess the implications of such a development, particularly within the context of possible reductions in United States wine tariffs, it is necessary to determine the characteristics of domestic demand for particular types of wine and to determine the factors which are associated with the quantities of wine supplied to the United States by other wine-producing nations.

The United States Market for Domestic and Imported Wine

Trends in Wine Consumption and Imports

Annual total consumption of wine in the United States as reflected in the volume of wine entering distribution channels has increased nearly 25 percent since 1950-1954 (Table 12). In the first half of the decade, annual aggregate consumption of all wines, domestic and foreign, averaged about 137 million gallons. By 1961, consumption had increased to an all-time high of nearly 172 million gallons. Consumption in 1962, although slightly lower than in 1961, was maintained at the comparatively high volume of 168 million gallons.

A large part of the growth in total wine consumption in the United States has resulted from the continuous growth in adult population--13 percent between 1950 and 1962.[1/] However, adult per capita consumption has also increased (Table 12). In the period 1950-1954, annual average adult consumption totaled 1.4 gallons. In the early 1960's, per capita consumption had increased about 9 percent to a little more than 1.5 gallons of all types of wine.

TABLE 12

Amount of Domestic and Imported Wines Entering Distribution Channels in the United States

Period[a/] or year[b/]	Wine entering distribution channels	
	Total	Per 1,000 adults
	million gallons	gallons
1950-1954	137.5	1,396
1955-1959	151.6	1,462
1960	163.4	1,510
1961	171.6	1,580
1962	168.1	1,520

a/ Annual average in selected periods.

b/ Calendar year.

Source: Appendix Tables 33 and 39.

1/ Reference has been made in Part II to per capita consumption of wine in various countries, including the United States. Data in Part II were expressed in per capita terms with respect to the total resident population of each country in order that international comparisons could be made. For the analytical purposes at hand in Part III, consumption data for the United States are reported on an adult per capita basis.

Within the aggregate, the pattern of consumption by type of wine has undergone significant change (Table 13). Adult per capita consumption of table wine in the past three years averaged 0.52 gallon--one-third greater than average annual consumption in 1950-1954. Adult per capita consumption of dessert wine, which averaged 0.79 gallon during the most recent three years, has declined 16 percent from the average of 1950-1954. Per capita consumption of vermouth and special natural wines--principally the latter--has undergone a fourfold increase since 1950-1954. Per capita consumption of sparkling wine has doubled in the same period of time; however, even now it represents a very small part of total wine consumed.

TABLE 13

Adult Per Capita Consumption of Selected Types of Wine, Domestic and Foreign, in the United States

Period[a] or year[b]	Type of wine				
	Table	Dessert	Vermouth[c]	Sparkling	All wine
	gallons				
1950-1954	0.39	0.94	0.05	0.02	1.40
1955-1959	0.44	0.89	0.10	0.03	1.46
1960	0.49	0.81	0.17	0.04	1.51
1961	0.53	0.82	0.19	0.04	1.58
1962	0.54	0.75	0.19	0.04	1.52

a/ Annual average in selected periods.

b/ Calendar year.

c/ Includes special natural wines.

Source: Appendix Table 39.

Population growth in the United States, reinforced by the per capita trends, has generated a substantial growth in total consumption of three of the four major types of wine (Table 14). The total consumption of table wine increased nearly 60 percent between 1950-1954 and 1962. At the same time, the total consumption of vermouth and aperitif wines rose more than 400 percent, while sparkling wine consumption rose some 200 percent. However, a reversal of this picture was reflected for dessert wine; total consumption of it was 12 percent less in 1962 than during the 1950-1954 period.

TABLE 14

Wine Entering Distribution Channels in the United States by Type

Period[a] or year[b]	Type of wine			
	Table	Dessert	Vermouth[c]	Sparkling
	million gallons			
1950-1954	38.2	92.7	3.3	1.3
1955-1959	45.5	92.7	7.9	2.3
1960	53.1	87.4	15.4	3.4
1961	57.4	89.0	17.2	3.7
1962	59.6	82.3	17.6	3.8

a/ Annual average in selected periods.

b/ Calendar year.

c/ Includes special natural wines.

Source: Appendix Tables 34-37.

Despite the expansion in production and consumption of California wine, United States consumption of imported wines has increased markedly (Table 15). In the aggregate, the volume of foreign-produced wine entering United States distribution channels has increased successively in each of the past 16 years.[1] The 14 million gallons imported in 1962 represented 8.4 percent of all wine entering distribution channels in the country. Compared to its annual average of 1950-1954, the absolute volume of imports has increased nearly 160 percent, and, measured as a proportion of all wine entering distribution channels, the volume of imported wine more than doubled since 1950-1954.

With the exception of sparkling wine, imports of each type of wine showed similar changes in direction. The volume of table wine imported more than trebled from the average of 1950-1954. Imports of dessert wine, although small relative to total dessert wine entering distribution channels, increased 76 percent since the 1950-1954 period; this now represents nearly 2 percent of all dessert wine consumed in this country. In the same period of time, the volume

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1/ Yearly data are contained in Appendix Table 39.

TABLE 15

Foreign-Produced Wine Entering Distribution Channels in the United States, by Type

Period[a] or year[b]	Imports, by type					Imports as percent of total consumption, by type				
	Table	Dessert	Vermouth	Spark-ling	All wine	Table	Dessert	Vermouth	Spark-ling	All wine
	thousand gallons									
1950-1954	2,504	801	1,651	604	5,564	6.5	0.8	34.6	32.5	4.0
1955-1959	4,253	980	2,103	769	8,486	9.3	1.1	40.9	25.4	5.6
1960	5,603	1,017	3,175	940	10,736	10.6	1.1	44.7	21.8	6.6
1961	6,715	1,107	3,368	964	12,153	11.7	1.1	44.1	20.7	7.1
1962	7,825	1,410	3,779	1,036	14,049	13.2	1.7	47.6	21.3	8.4

a/ Annual average in selected periods.

b/ Calendar year.

Source: Appendix Tables 33-37.

of vermouth imported increased 130 percent and currently constitutes 48 percent of the total United States consumption of that type of wine. While the volume of sparkling wine imported has increased in absolute terms, consumption of domestically produced sparkling wine has increased even more rapidly. Consequently, the relative consumption of imported sparkling wine has declined from an average of 32 percent in 1950-1954 to 21 percent in 1962.

Approximately 70 percent of the wine imported into the United States in recent years consists of table- and dessert-type wines. Throughout most of the 1950's, the member countries of the EEC have supplied 85 to 90 percent of the volume of table wine imported annually into the United States.[1/] France, Italy, and West Germany, in descending order of importance, have been the principal suppliers. Spain, with exports composed principally of sherry, dominates as a supplier of dessert wine to the United States. Lesser but appreciable quantities of dessert wine are imported from Portugal and its island dependencies of Madeira and the Azores.[2/] In total, those two countries account for nearly 80 percent of total annual United States imports of dessert wine. Imports of vermouth are almost exclusively from Italy and France, with the former nation by far the single most important supplier.[3/] These two nations also provide nearly 80 percent of the champagne and other sparkling wine imported annually into the United States.[4/]

United States Demand for Table and Dessert Wine

In order to assess the economic impacts which tariff reductions would have upon the domestic wine industry, it is necessary to determine first those variables which have been associated with the apparent changes in demand for wine. Unfortunately, it is possible to attempt such analyses only for table and dessert wine. The lack of an adequate time series of domestic prices for vermouth and champagne and other sparkling wines precludes any attempt at demand analysis for those products.

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1/ See Appendix Table 11.

2/ See Appendix Table 12.

3/ See Appendix Table 13.

4/ See Appendix Table 14.

On the basis of statistical analyses conducted in the past, it appears that changes in total annual consumption of table wine in the United States, as measured by the volume of table wine entering distribution channels, are associated principally with changes in three other variables: (1) per capita real income, (2) adult population, and (3) the price of table wine as reflected in the price of bulk table wine, f.o.b. California wineries.

Blaich, in a recently conducted analysis, estimated that a change of $100 in United States average per capita real income was associated, on the average and by itself, with a change in the same direction in United States table wine consumption of 0.024 gallon per adult per year during the period 1941-1960.[1] Mehren, in an analysis conducted in 1951, also found a statistically significant relationship between table wine consumption and the level of income in the United States.[2] Coupled with the 13 percent increase in United States adult population since 1950, it is apparent that the effect of increased real per capita income on total table wine consumption has been substantial. Because both real per capita income and population are expected to continue to increase, a continued growth in United States total demand for table wine may be anticipated at least through the remainder of the 1960's. Given the 60 percent increase in per capita real income which has occurred since 1950, it appears that a substantial part of the increase in per capita consumption of table wine referred to in the immediately preceding section may have been generated by changes in the income variable.

Blaich has estimated that a change of 1 cent per gallon in the average annual bulk price of table wine, f.o.b. California wineries, was associated, on the average and by itself, with a change in the opposite direction in the volume of table wine entering distribution channels in the United States of 230,000 gallons per year during the period 1941-1960.[3] Mehren's conclusions were only slightly different; a 1 cent change in price was associated with an opposite change in the volume of wine entering distribution channels of 250,000 gallons.[4]

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1/ O. P. Blaich, "Some Economic Considerations in Determining Excise Tax Rates with Special Reference to Wines" (Berkeley: California Agricultural Extension Service, 1962), p. 61.

2/ George L. Mehren, "The Impact Upon the Grape Industry of Increased Federal Excise Taxation on Wines" (Berkeley: California Agricultural Experiment Station, 1951), pp. 13-14.

3/ Blaich, op. cit., p. 61.

4/ Mehren, op. cit., pp. 13-14.

In considering possible interdependence in demand for California table and dessert wines, both Blaich and Mehren studied price interrelationships between these two commodities. No statistically significant relationship was found, which lends credence to the generally assumed independence in demand between the two types of wine.

Statistical analyses of factors affecting consumption of dessert wine in the United States also have been conducted previously. Blaich and Farrell have estimated that a 1 cent change in the average annual price of dessert wine, f.o.b. California wineries, was associated, on the average and by itself, with a change in the opposite direction in the volume of dessert wine entering distribution channels of approximately 250,000 gallons per year.[1/] Blaich's analysis included the years 1941-1960; that of Farrell extended over the years 1935-1959, excluding the years 1942-1946. Both studies showed a positive net relationship between the annual volume of dessert wine entering United States distribution channels and the level of income in the United States. Blaich's analysis employing per capita consumption and real income data indicated a change of $100 in United States average real per capita income was associated, on the average and by itself, with a change in the same direction in the volume of dessert wine entering United States distribution channels of 0.012 gallon per adult per year. However, that income coefficient did not differ significantly from zero at the 0.05 probability level. Farrell, employing total consumption and total disposable personal income data, found a statistically significant and somewhat higher positive net relationship between the two variables. A third independent variable employed in each analysis--volume of aperitif wines entering distribution channels in the United States in the Blaich analysis and volume of tax-paid withdrawals of distilled spirits in the United States in the Farrell analysis--proved to be statistically insignificant when related to consumption of dessert wine in the United States.

The net coefficient of particular interest in this analysis is that between the price of wine and the volume of wine consumed as measured by the volume entering United States distribution channels. In the case of table wines, the measurement of that relationship by Blaich and Mehren produced approximately

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1/ Blaich, op. cit., and Kenneth R. Farrell, "Potential Impacts of Tariff Reductions for Wine and Brandy on the California Grape and Wine Industries" (Berkeley: California Agricultural Extension Service, 1960), pp. 22-23.

the same net coefficient; the results of analyses conducted by Blaich and Farrell produced nearly identical estimates of the price-quantity net coefficient for dessert wine. Inasmuch as at least one of the analyses for both table and dessert wine includes data for very recent years, the foregoing estimates of the price-quantity coefficient will be employed in Part IV in estimating the short-run price and income effects of tariff reductions. For purposes of that analysis, it will be assumed that domestic and foreign-produced wines substitute perfectly in demand. This appears to be a reasonable assumption in view of the ready acceptance of both imported table and imported dessert wine as indicated in the immediately preceding section.

The income-consumption relationships derived from the analyses cited above are of interest in this analysis because they apparently pertain to indigenous adult population--the principal demand "shifters" for wine, particularly table wine, in the United States. It will be important to consider the effect of the income and population variables on total demand for wine during the time over which tariff reduction might apply.

Factors Affecting United States Imports of Table and Dessert Wine

The simplest conceivable international trade model is one involving two countries producing a single, homogeneous product where per-unit costs of product transfer between the two countries are constant. Given a supply and a demand function for the product in each country and assuming the objective of profit maximization, the volume of international trade and the consumption and price of the product in each country could be determined. Under these abstract conditions, the "equilibrium" price of the product in the importing country will exceed the price in the exporting country by an amount equal to the cost of transfer. At any time price in the importing nation exceeds price in the exporting nation by more than the cost of transfer, it would be profitable for the exporting nation to continue to export its product.

The real world situation is, of course, much more complex. For various reasons, the "equilibrium" conditions referred to above may never be attained. Knowledge is less than perfect, production and trade take place not under static and certain conditions but under dynamic and uncertain conditions, and there are a host of institutional factors impinging upon trade. From the standpoint of empirical analysis, several of the functional relationships

envisaged in the simple model described above are usually unavailable and frequently cannot be estimated because of data limitations. That situation prevails for international trade in wine. Even if one assumes the short-run supply of wine to be perfectly inelastic with respect to price, there is no means by which the demand characteristics--level and elasticity--for wine in most consuming nations can be estimated, given the current lack of relevant data.

Despite these limitations, it may be possible to secure useful empirical relationships upon which short-term predictions could be based. In the succeeding paragraphs of this section, the results of analyses conducted by the authors to derive "import-response" functions are reported. It should be recognized that these import-response functions are neither United States demand functions for imported wine nor foreign supply functions for wine in the technical usage of those terms. They are, in fact, a "mongrel" of the two which traces the changes in the volume of wine imported into the United States as changes in other specified variables occur. In reality, changes in demand for wine in foreign nations or in other functional relationships may have been occurring during the period of time included in these analyses. Thus, while the empirical results obtained are useful for purposes of short-term prediction of the volume of United States imports of wine, they do not provide a means of estimating longer run or structural relationships in international wine trade.

The economic rationale underlying specification of the statistical models from which the import-response relationships were obtained is comparable to that involved in the abstract trade model discussed above. The hypothesis is that the volume of wine imported into the United States in any given year is a function of the price of wine in the United States in that year, the price of wine in the exporting nation in that same year, or, alternatively, the ratio of United States and foreign wine prices in the specified year and the total available supplies of wine in the exporting nation in the same year. Because of the pronounced upward trend in the volume of United States imports, a demand shifter--per capita income, or time--was introduced as an explicit variable in most of the equations which were derived.

Because of constraints imposed by the availability of data and to reduce the problem to manageable proportions, it was necessary to make several

assumptions concerning the data and to aggregate data pertaining to foreign wine prices and supply. The only relevant and available time series of wine prices in foreign countries is that pertaining to the declared value of wine imported for consumption into the United States. Such prices are roughly comparable to an f.o.b. price, port of export in the foreign country, exclusive of United States tariff. It was assumed that such prices were representative of the general level of wine prices in the foreign nation in each of the years included in the time series. Those price data for each relevant country were aggregated to obtain an average f.o.b. price weighted by the volume of wine imported into the United States from each relevant country. To conform with available supply data, which also were aggregated, the countries included in the analysis of table wine imports are the member nations of the EEC, which, as noted previously, have supplied 85 to 90 percent of the United States imports of table wine in recent years. In the analysis of dessert wine imports, only Spain and Portugal were included. Those two countries have been accounting for nearly 80 percent of United States imports of dessert wine.

United States wine prices employed in statistical analyses of imports are those for bulk wine, f.o.b. California wineries, to which were added transportation costs for wine in tank cars from California wineries to destinations in the eastern United States. Included within these destinations are the cities of Washington, D. C., Philadelphia, New York, and others in the area to the north and east of New York City. Thus, the prices correspond roughly to wholesale prices, delivered in the northeastern United States coastal cities. In view of the fact that a relatively large proportion of the wine imported into the United States is marketed in that part of the country, the wholesale delivered price of California wine was deemed to be more appropriate for purposes of analysis than prices f.o.b. California wineries.

Again because of constraints imposed by the availability of data, it was necessary to assume that delivered prices of California bulk wine were representative of all wine delivered in the United States. A large volume of wine is marketed in bottled rather than bulk form. However, the absence of any other satisfactory time series for bottled wine prevented its consideration in these analyses.

One additional assumption implicit in the foregoing model requires amplification prior to presentation of the results of statistical analyses. The time series of wine prices in the United States and in other nations are annual averages of prices prevailing in each year of the time series. The prevailing price in the United States in any given year reflects the interplay of aggregate demand for wine in the country and the supply of wine available for consumption in that year. The supply of wine includes the volume of wine imported. Thus, to some extent, the domestic price series reflects the price effect of imported wine as well as the effect of the available supply of domestic wine in a given year. In terms of the import-response function, the price series employed is not "net" or independent of the effects of imports in each specified year; to some extent, the implicit assumption in the statistical analysis that the prices employed in the analysis are independent of the volume of imports may not be strictly fulfilled. However, because United States imports represent a comparatively small part of the total supply of wine in the United States and in relevant exporting nations and because of the somewhat different seasonal patterns of marketing of domestic wines and importation of wine, the violation of strict statistical assumptions is probably not serious for the predictive purposes at hand in this report.1/

The following least squares multiple regression equation was obtained from table wine data for the period 1948-1962.

$$(1)\quad \hat{Y}_t = -740.78336 + \underset{(0.22364)}{0.32490X_{1_t}} + \underset{(38.13701)}{236.14197 \log_{10}X_{2_t}} - \underset{(0.00391)}{0.00105X_{3_t}}$$

$$R^2 = 0.93965$$

where

$\hat{Y}_t$ = estimated quantity of imported table wine entering distribution channels in the United States in year t (gallons per 1,000 adults).

X_{1_t} = average annual price of California bulk table wine, delivered in the eastern United States in year t (cents per gallon).

X_{2_t} = per capita annual average real disposable personal income in the United States in year t (dollars in logarithms, base 10).

1/ For example, nearly 40 percent of the table wine imported into the United States in 1962 occurred during the months of April through July, at which time the movement of bulk wine from California is usually very small. Generally, the same seasonal differences prevail with respect to dessert wine.

X_{3_t} = total available supply of wine in year t in France, Italy, and West Germany plus wine imported into France from Algeria (million United States gallons). Available supply in a given year consists of production in that year plus carry-in of wine from preceding years.

The numbers in parentheses are standard errors of the respective regression coefficients. Data employed in the analysis are contained in Appendix Table 41.

In total, the three independent variables "explain" 94 percent of the annual variation in quantities of imported table wine entering distribution channels in the United States since 1948, expressed in terms of gallons per 1,000 adults.

During the period 1948-1962, a change of 10 cents in the average annual price of California bulk table wine delivered in the eastern United States was associated, on the average and by itself, with a change in the same direction in the annual quantity of imported table wine entering distribution channels in the United States of 3.2490 gallons per 1,000 adults. At their respective mean values for the period 1948-1962, a 10 percent change in the average annual price of California bulk table wine delivered in the eastern United States was associated with a 6 percent change in the opposite direction in per capita imports of table wine.

The income variable was introduced as a shifter of United States demand for imported table wine. The foregoing results indicate that a 10 percent change in the United States average annual per capita real disposable personal income was associated, on the average and by itself, with a change in the same direction in the annual quantity of table wine entering distribution channels in the United States of 9.77627 gallons per 1,000 adults during the period 1948-1962. At the mean values for the period of analysis, a 10 percent change in the income variable was associated with about a 20 percent increase in per capita imports. It is significant to note that the volume of per capita imports of table wine appears to be more responsive to a given percentage increase in per capita real income than is the volume of domestic wine entering distribution channels. As calculated from Blaich's analysis, a 10 percent change in real per capita income was associated with a 10 percent increase in the per capita volume of domestic wine entering distribution channels in the United States.[1/] Thus, although per capita consumption of both domestic and

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1/ Blaich, op. cit., p. 68. Calculations were made at the centroid values of the two variables.

imported wine appears to have increased as a result of rising per capita real income in the United States, consumption of imported table wine appears to have gained more in a relative sense.1/ Whether these disparate relationships reflect the "prestige" element sometimes associated with the foreign label or a fundamental shift in consumer preferences in favor of the imported product as income rises cannot be ascertained from this analysis.

The third independent variable--foreign supply of wine--was included as a supply shifter. Conceivably, a change in the supply of wine in relevant foreign countries might be associated directly with changes in the volume of United States imports, other factors remaining unchanged. However, as indicated in equation (1), the coefficient of the supply variable does not differ significantly from zero at any acceptable level of probability. This does not deny that there may be a relationship between the two variables, although on logical grounds one might expect a moderate change in foreign wine production to induce no large change in United States imports in a short-run, year-to-year context. Exports of wine from the EEC to the United States are small relative to total wine production, supply, and exports of the area.2/ The lack of statistical significance of the supply coefficient in equation (1) may mean simply that with the data available for analysis such relationship could not be measured.3/

The least squares multiple regression equation for United States imports of dessert wine during the period 1948-1962 is:

$$(2)\quad \hat{Y}_t = -40.78223 - \underset{(0.01059)}{0.01255X_{1_t}} - \underset{(0.00352)}{0.01195X_{2_t}} + \underset{(4.17982)}{16.96387 \log_{10}X_{3_t}} - \underset{(0.00205)}{0.00014X_{4_t}}$$

$$R^2 = 0.70297$$

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1/ As indicated in Appendix Table 41, adult per capita consumption of imported table wine increased by nearly 700 percent between 1948 and 1962. The comparable increase for domestic table wine was about 60 percent.

2/ See discussion on pages 10-15.

3/ A regression equation including only X_{1_t} and X_{2_t} was derived but rejected in favor of equation (1). Other variables included in preliminary analyses in various combinations with each other and those included in equation (1) were the price of imported table wine, the ratio of foreign and domestic wine prices, and a trend variable (time). Those equations were rejected in favor of equation (1) because of low explanatory value and coefficients with signs inconsistent with a priori expectations formulated on the basis of economic theory.

where

$\hat{Y}_t$ = estimated quantity of imported dessert wine entering distribution channels in the United States in year t (gallons per 1,000 adults).

X_{1_t} = average annual price of California bulk dessert wine delivered in the eastern United States in year t (cents per gallon).

X_{2_t} = average annual weighted price of dessert wine imported into the United States from Spain and Portugal in year t (cents per gallon).

X_{3_t} = per capita annual average real disposable personal income in the United States in year t (dollars in logarithms, base 10).

X_{4_t} = average annual production of wine in Spain and Portugal in year t, year t - 1, and year t - 2 (million United States gallons).

The numbers in parentheses are standard errors of the respective regression coefficients. Data employed in the analysis are contained in Appendix Table 41.

In total, the four independent variables "explain" about 70 percent of the annual variation in quantities of dessert wine entering distribution channels in the United States since 1948.

Two of the coefficients--domestic price and foreign production--included in equation (2) have very high standard errors.[1/] The fiducial limits of each coefficient are so wide that the sign of each coefficient might be either positive or negative. At the 0.05 probability level, the coefficients do not differ significantly from zero.

The coefficient for the foreign wine price variable is statistically highly significant (0.05 probability level). During the years 1948-1962, a change of 10 cents in the annual average weighted price of dessert wine imported from Spain and Portugal was associated, on the average and by itself, with a change in the opposite direction in the annual volume of imported dessert wine entering distribution channels in the United States of 0.12 gallon per 1,000 adults. At the mean values for the period of analysis, a 10 percent change in the average annual weighted price of imported dessert wine was associated with an 8 percent change in the opposite direction in per capita imports of dessert wine.

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1/ The average annual production of wine in Spain and Portugal was employed in preference to current production to reflect the practice of aging wine prior to marketing. Inventory data are unavailable for those two countries.

A 10 percent change in United States per capita real disposable personal income was associated with, on the average and by itself, a change in the same direction in the annual volume of dessert wine imported--that is, entering distribution channels--into the United States of 0.70126 gallon per capita during the period 1948-1962. At the mean values, a 10 percent change in the income variable was associated with a change in the same direction in per capita imports of about 9 percent. Although the per capita quantity of dessert wine imported appears to be less responsive to a given change in per capita income than does per capita imports of table wine, it appears on the surface that the growth in United States per capita incomes since 1948 may have exerted a disparate effect in favor of imported dessert wine as compared to domestic dessert wine. Note that Blaich's analysis indicates that a 10 percent increase in real per capita disposable income in the United States was associated with less than a 1 percent increase in the per capita consumption of domestic dessert wine. Much of the income response was transferred to an increase in the consumption of aperitif wines.[1/] To some extent this may also apply to imported wines.

In addition to the independent variables contained in equation (2), several other variables were incorporated in preliminary analyses of dessert wine imports. Those variables included the ratio of domestic and foreign wine prices, the volume of domestic dessert wine entering distribution channels, the current year's production of wine in Spain and Portugal, a trend variable (time), and United States tariffs for dessert wine. Generally, the various combinations of those variables employed in the preliminary analyses resulted in equations less satisfactory for the predictive purposes at hand than did equation (2). In using either equation (1) or equation (2) for purposes of prediction, it is important to appreciate their statistical shortcomings and to confine their use to the making of short-run estimates. Employed cautiously, they may be useful in the estimation of the short-term effects of tariff reductions on the domestic wine industry (see Part IV).

In sum, the period 1948-1962 was one in which substantial increases occurred in the aggregate consumption of wine in the United States on both an adult per capita and total basis.[2/] However, the growth in consumption differed markedly

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1/ Blaich, op. cit., p. 68.

2/ Data contained in these summary remarks are from preceding sections of Part III and Appendix Tables 33-41.

among various types of wine. Consumption of table wine increased impressively. Consumption of vermouth, special natural wines, and sparkling wines also rose sharply. However, adult per capita consumption of dessert wine declined 20 percent in those 15 years. The rapid growth in population, however, more than offset the per capita decline, with the result that total consumption of dessert wine rose by nearly 17 percent.

Both domestic and foreign wine industries participated in the growth in table wine consumption. Adult per capita consumption of domestic table wine rose from 0.29 gallon in 1948 to 0.47 gallon in 1962. Adult per capita consumption of imported table wine increased even more rapidly from less than 0.01 gallon in 1948 to 0.07 gallon in 1962. However, per capita consumption of domestic dessert wine has declined from 0.93 gallon to 0.81 gallon in 1961 and 0.74 gallon in 1962. In the meantime, adult per capita consumption of imported dessert wine has increased persistently to 0.013 gallon in 1962. Although the total consumption of domestically produced dessert wine has been higher in recent years than in 1948, it is now substantially lower than in the midpart of the 1950's--96 million gallons in 1956 and 88 and 81 million gallons in 1961 and 1962, respectively.

The growing importance of imported table and dessert wine in both relative and absolute terms in the American market does not appear to have been attributable in any large part to changes in either domestic or foreign wine prices. It is true that the average annual price of California bulk table wine delivered at eastern United States cities has trended moderately upward since 1948. Statistical analysis of factors affecting imports of table wine indicate that the upward movement in domestic table wine prices has been associated with increased per capita, and therefore total, imports of table wine. But the moderate rise in foreign price of dessert wine, according to our statistical analysis, should have tended to suppress per capita and total imports of dessert wine. However, it appears that the quantity of both table and dessert wine imported into the United States is inelastic with respect to short-term changes in relevant prices of wine in the United States and abroad. Thus, the moderate price changes which have occurred do not seem to have contributed greatly to increased imports.

Statistical analyses suggest that a large part of the increase in imports of both types of wine may be attributable to increased real per capita income

in the United States. Not only does an increase in real income stimulate the consumption of domestically produced wine but such income growth appears to stimulate the consumption of the imported product relatively more. Whatever the fundamental reasons for the disparate growth in consumption may be, it is apparent that if such a relationship persists into the future the expected increases in real per capita income in the United States would result not only in further absolute increases in importation of table and dessert wine but also in a continued moderate growth in the relative importance of imported wines in American markets, other factors remaining unchanged.

PART IV: THE IMPACTS OF TARIFF REDUCTIONS

The basic authority by which the President may modify United States tariffs is contained in Public Law 87-794 (Trade Expansion Act of 1962). Title II, Chapter 1, Section 201 (b) (1) of that act specifies: "Except as otherwise provided in this title, no proclamation pursuant to subsection (a) shall be made . . . (1) decreasing any rate of duty to a rate below 50 percent of the rate existing on July 1, 1962." Title II, Section 253, requires that tariff reductions granted by the President shall, in effect, be applied in five equal annual installments.

If the maximum reduction of 50 percent were applied to current United States tariffs, the duty on table wine would decrease by 18.75 cents per gallon for that imported in containers of 1 gallon or less; the decrease would be 31.25 cents per gallon in containers of more than 1 gallon. Applied equally over five years, that would mean a maximum annual reduction of 3.75 and 6.25 cents per gallon for table wine, depending upon the size of container. The maximum total decrease on sherry, irrespective of the size of container, would be 62.5 cents per gallon over the five years, or 12.5 cents per gallon in each of the five years. The duty on Marsala wine could decrease by 23.5 and 56.0 cents per gallon, depending upon the size of container, over the five years, or at an annual rate of 4.7 and 11.2 cents per gallon throughout the five years. For still dessert wine other than sherry, the maximum decrease in tariff would be 56 cents per gallon, or 11.2 cents per gallon in each of the five years.1/

The Short-Run Effects of Tariff Reductions

A reduction in tariff can be viewed in one of two ways. From the standpoint of demand for imports, it is comparable to a reduction in the "effective" purchase price of wine in the country of export. On the side of supply of imports, it represents an increase in the "effective" selling price of wine in the country of import; or it may be considered as the reciprocal of that, a decrease in the cost of supplying wine to the importing nation.

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1/ See Table 7 for United States tariffs on wine.

Utilizing those concepts, it is possible to derive estimates of the short-run, independent effects of tariff reductions upon the domestic industry from the statistical analyses on table and dessert wine presented in Part III.

In estimating the impact of a tariff reduction, it will be assumed that the relevant maximum potential tariff reduction for dessert wine is that pertaining to sherry--62.5 cents in total, or 12.5 cents per gallon, for each of the five years. Although the maximum potential reduction is much less for Marsala than for sherry, only a comparatively small amount of the former type of wine is imported into the United States. As indicated previously, close to 80 percent of the United States imports of dessert wine are from Spain and Portugal, including the latter's island dependencies of Madeira and the Azores. Spain alone supplies nearly two-thirds of all United States imports of dessert wine; most of the imports from Spain are of the sherry type. The maximum potential tariff reduction on dessert wine other than Marsala and sherry is comparable to that applying to sherry. With respect to table wine, it is assumed that imports will continue to enter the United States almost exclusively in containers of 1 gallon or less and that, therefore, the relevant tariff reduction for purposes of this analysis is that pertaining to that particular size of container--3.75 cents per gallon annually, or a total of 18.75 cents per gallon during the five years.1/

According to the import-response function for table wine--equation (1)--a 3.75 cent per gallon reduction in the United States tariff on table wine might generate an increase in imports of table wine of 137,000 gallons in the first year following the reduction.2/ This would be the "net," or independent, effect of the tariff reduction. In addition, imports might be expected to increase as a result of any increase in United States per capita real disposable personal income. The estimated marginal or incremental effects of the tariff reduction on the volume of table wine imported into the United States would be small relative to the volume of table wine imported in recent years. According to estimates of price-quantity relationships derived in previous studies and adopted in this study, the additional imports generated by the tariff reduction

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1/ See Table 8 and discussion of the data in that table.

2/ Calculated from equation (1) and assuming an adult population in the United States of 112 million in 1964.

might reduce domestic wine prices by about 0.6 cent per gallon in the first year after the reduction.[1] Magnified over the volume of domestic table wine entering distribution channels in the United States in 1962 (52 million gallons), the tariff reduction might generate, by itself, an income loss of about $0.3 million at the f.o.b. level of the marketing system.[2] Such losses would be appreciable, even if small, relative to total gross income in the industry.

A reduction of 12.5 cents per gallon in the United States tariff on dessert wine would generate by itself, according to the import-response function for dessert wine, an increase in United States imports of that type of wine of 17,000 gallons in the first year following granting of the reduction.[3] According to estimates of price-quantity relationships for domestic dessert wine, the tariff reduction might, by itself, reduce dessert wine price by 0.1 cent per gallon.[4] Magnified over a sales volume of 85 million gallons, the income loss to the domestic industry under the same assumptions specified above for table wine might exceed slightly $0.1 million in the first year of the sequential tariff reductions. Again, these represent estimates of the first-year net, or independent, effects of tariff reductions on the volume of dessert wine imported, the domestic price, and income of the dessert wine sector.

The independent effects of a sequence of five reductions in tariff of the magnitude specified above are less easily estimated than for a single year. Conceivably, total income loss to the domestic industry might equal slightly more than $2 million for table and dessert wine (the first-year effects multiplied by five). Much would depend on the extent and rapidity with which domestic and foreign wine suppliers adjust to the market equilibrating forces likely to be set in motion by a tariff reduction. In the short-run context of, say,

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1/ See page 40.

2/ This assumes that imported and domestic wines substitute for each other in a ratio of 1:1 and that no adjustments are made in the volume of domestic wines marketed as a result of the tariff reduction.

3/ Calculated from equation (2), using the regression coefficient for foreign wine price (X_{2_t}) and assuming an adult population in the United States of 112 million in 1964.

4/ See page 41.

a single year, it seems reasonable to expect that adjustments which the domestic industry might make would be limited. The domestic supply of wine in a given year is largely predetermined by the total production of grapes, which in turn is largely predetermined by environmental conditions and the acreage of grapes in bearing. To some extent, adjustments might be made by allocation of grapes among alternative outlets through the market price mechanism or through industry-wide marketing programs.[1/] Adjustments made through the price and market mechanism are sometimes slow and imprecise within the context of a single year. There is a question as to how much of the grape crop could be allocated to the making of raisins without substantial price-depressing effects in that market which is generally assumed to be highly inelastic with respect to price. Adjustments in supply might be made through inventory adjustments on the part of individual vintners, but this might simply postpone the ultimate incidence of increased imports. On the other hand, it seems likely that foreign suppliers of wine could adjust more readily to changes in price in the United States market by allocation of their exportable supplies among the various wine-importing nations. Whatever the nature of the adjustments, they will take numerous forms, and most of them will be imperceptible, yet nonetheless real, in the maze of economic changes.

If the effect of tariff reduction in a given time interval is to increase United States imports of wine and thereby, other factors remaining constant, decrease wine prices in the United States, that should tend, by itself, to suppress imports in the succeeding time interval. However, the reduction in annual tariff exceeds considerably the price-depressing effects of additional imports in the United States--3.75 and 0.6 cents, respectively, for table wine and 12.5 and 0.1 cents, respectively, for dessert wine. Thus, viewed as a sequence of annual tariff-domestic price adjustments, one might expect imports

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1/ There are currently two marketing programs for the grape industry through which volume control or market allocation has been practiced: the federal marketing orders for raisins and that for central California grapes for crushing. The latter will become inoperative beginning with the 1964 grape crop year and has therefore been excluded from consideration in this report. For a discussion of these and other federal marketing orders, see Kenneth R. Farrell and William W. Wood, Jr., "Federal Marketing Orders and Agreements for California Fruits, Vegetables, and Tree Nuts" (Berkeley: California Agricultural Extension Service, 1963) 47p.

to be stimulated each year by about the magnitude estimated above, so that the five-year income loss from tariff reductions might closely approximate the $2 million estimated above.

Virtually nothing of a definitive nature can be said concerning the "carry-over" or longer term effects of the possible sequential tariff adjustments. Subjectively, it seems unlikely that the direct effect of United States tariff reductions would, by themselves, induce any appreciable supply response in grape and wine production either in the United States or abroad. The United States market represents a very small outlet in relation to total output of the wine-producing nations of Europe. Therefore, tariff reductions as authorized in the Trade Expansion Act seem unlikely to induce, by themselves, any significant changes in the formulation of producers' decisions to plant grapes. Similarly, the estimated moderate price effects on the domestic industry would seem unlikely to loom large in domestic grape producers' production plans.

Some Further Implications and Considerations of Tariff Reductions

It was concluded in the immediately preceding section that tariff reductions of the magnitude and in the manner authorized in the Trade Expansion Act would result, by themselves, in small increases in United States imports of table and dessert wine and, consequently, small reductions in price and income. However, there are in addition several possible "side effects" of tariff reduction which need to be considered.

Although we have been unable to consider the possible effects of tariff reductions on imports and domestic prices of vermouth and sparkling wines, it should be recalled that such products are also subject to potential tariff reductions. If tariff reductions are granted for vermouth and sparkling wine, the total income loss to the wine industry from tariff reductions would probably exceed the estimated five-year total loss of $2 million. Without statistical analyses, there is no way of estimating quantitatively what losses might accrue from tariff reduction on vermouth and sparkling wine.

It is also possible that economic losses accruing directly to the wine sector might be transmitted or shifted to other sectors of the grape industry. If wine prices, and thereby the price of grapes for crushing, are lowered by tariff reductions, this could lead to larger supplies of grapes for the making

of raisins or for shipment as fresh grapes and a consequent tendency for lower prices in those outlets.[1] Depending upon the extent to which the tariff reduction triggered such a reallocation and the comparative elasticities of demand in the three product markets--wine, raisins, and table grapes--the ultimate income effects on the total grape industry could be greater than, less than, or equal to those estimated above. Empirical estimation of the possible shift in the incidence of a tariff reduction on wine to other sectors of the grape industry and from the f.o.b. sector of the marketing system to grape producers was considered to be beyond the scope of this analysis. Yet, the possibilities of such a chain reaction should not be dismissed.

Another possible side effect of sequential tariff adjustment could be a reinforcement of the substantial annual variability which characterizes the industry at the vintner as well as grape producer levels.[2] As indicated above, successive tariff adjustments of the nature authorized in the Trade Expansion Act would likely set in motion a sequence of market equilibrating forces. Such variations or the failure to anticipate correctly the timing and magnitude of sequential adjustments induced by the tariff reduction might create problems in management of wine inventories or even errors in production planning both in the United States and abroad. Thus, even if the underlying price and income effects of a tariff reduction were small, the increased variability and uncertainty which might accompany the reduction could have important consequences for the domestic industry.

For technical and biological reasons, the aggregate supply of grapes, and thus to a lesser extent the aggregate supply of wine, appears to be highly inelastic with respect to price or tariff change within the context of a four-to-five-year period.[3] Acreage of grapes now in bearing or planted within the past four to five years coupled with natural or environmental conditions during the maturation of the crop are the principal determinants of total grape production within the context of four to five years. As indicated in Part III, a moderate expansion in total grape production in California can be expected during the next several years.[4] Although much less definitive projections

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1/ See discussion on pages 31-32.

2/ See discussion on pages 33-34.

3/ See discussion on pages 24-26 and 31-33.

4/ Pages 33-34.

can be made for western Europe, grape production in that area may be expected to average somewhat higher during the next four to five years than in the past four or five years.[1] If realized, these projected increases in grape production would probably generate moderate increases in wine production in both the United States and western Europe.[2] Even at current levels of production in western Europe, large and sometimes burdensome physical "surpluses" of wine have been encountered in recent years; large quantities of wine are converted to industrial alcohol in France, Italy, and West Germany.[3] Characteristic of production of perennial crops, substantial year-to-year variations in production of grapes and wine may be expected as total production trends gradually upward.

Increased total demand for wine in both the United States and western Europe is also anticipated during the next five years. Projected population growth in the United States in the next five years would enlarge total demand for wine by almost 8 percent, assuming that adult per capita consumption of wine remains constant in the aggregate. Even after discounting what appear to be unduly high projections by the EEC Secretariat, a sizeable growth--perhaps 10 to 15 percent--in total wine consumption in western Europe may be anticipated through 1968.[4]

The projected increases in per capita income of about 2.5 percent per year in the United States and 4.5 percent per year in western Europe should further enlarge total demand for wine in those areas. Assuming that income-consumption relationships uncovered in statistical analyses referred to in this report continue to prevail, increased per capita income would generate a much larger increase in demand for table wine than for dessert wine, at least in the United States.[5]

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1/ Pages 24-26.

2/ Pages 24-26 and 31-33.

3/ Pages 8, 9, and 29.

4/ Pages 26-29.

5/ See pages 46-47.

In sum, closely similar rates of growth in total wine production and in total demand for wine in the United States and western Europe might be expected during the five-year period over which United States tariff reductions on wine might be applied. On balance, United States wine production might be expected to increase at about the same rate as the projected rate of increase in aggregate demand for wine in the United States. Even if increases in total demand for wine in western Europe equal or exceed slightly projected increases in total wine production in that area, available supplies for export to nonwestern European countries will likely continue to be relatively high. A succession of years of high production as, for example, occurred in France in 1962 and 1963, if coincident in the major wine-producing nations of western Europe, could result in large exportable supplies in the area even while the longer term trend was for a closely related growth in total production and demand.

If, in fact, the average annual expansion in wine production in the United States approximates the total growth in demand for wine in the country during the next five years, this suggests that further substantial increases in imports could not be accommodated without a decrease in price and, because of the inelastic nature of demand for wine, a decrease in gross revenue of the domestic wine industry. Statistical analyses have revealed that the volume of both table and dessert wine imported into the United States has been more elastic with respect to changes in income than has consumption of domestic table and dessert wine.[1/] According to those relationships, the projected increase of 2.5 percent in United States per capita income might increase imports of table wine by about 5 percent and imports of dessert wine by about 2 percent.[2/] The same increase in income might, however, increase consumption of domestically produced table wine by only 2.5 percent and dessert wine by not more than about 1 percent.[3/] Thus, if these relationships continue to prevail

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1/ Pages 46-47.

2/ Pages 46-47.

3/ Pages 48-49.

and if, in fact, per capita income rises at the projected rate, the domestic industry might be confronted with continued increases of table and dessert wine imports in absolute terms and relative to the demand for domestic table and dessert wine at a time when its own output was expanding at a rate sufficient to keep pace with growth in aggregate demand. If such conditions tended to materialize, domestic wine prices would decrease or the incidence of such an occurrence would be shifted to other sectors of the grape industry (raisins and table grapes) or both.

Assuming that United States per capita disposable personal income rises at an annual rate of 2.5 percent per year through 1967, that the income-consumption relationships derived in this report continue to prevail, and that adult population in the United States totals 115 million in 1967, table wine imports might increase, apart from the effect of tariff reductions or changes in United States table wine prices, by nearly 2.5 million gallons to a total of about 10 million gallons in 1967. Imported dessert wine entering distribution channels in this country might increase, under the same assumptions, by 150,000 gallons to a total of about 1.6 million gallons in 1967. Of course, these additional imports would tend to reduce wine prices in the United States or to increase wine prices abroad, other factors remaining unchanged, and according to our analysis of imports would tend to suppress United States imports in the subsequent year. The actual level of imports in a given year is a function of all variables included in the import-response equations.

For the reasons just stated, the total effects of imports of table and dessert wine upon the domestic wine industry have far broader implications and much larger potential economic impacts than are indicated as ensuing from increased imports stemming directly and solely from tariff reductions. On the basis of various projections and economic relationships discussed in this report, it would appear that tariff reductions on wine, though exerting only moderate effects by themselves on the domestic wine industry, would augment the increasing competition confronting the domestic wine industry from imports which are likely to continue to increase even without tariff reduction. And it is possible that this increased competition from imported wines may occur under circumstances which would lead directly to very substantial price and income reductions in the domestic wine industry or other sectors of the grape industry

or both. These possibilities, together with the possibilities of the indirect or side effects of tariff reductions should be carefully considered and weighed in deliberations concerning tariff reductions.

Throughout, this report has not engaged in the question of "equity" or income compensation with respect to the impacts of tariff adjustments. This is not to deny that such questions are irrelevant. The report does, however, provide some useful data for those who are concerned with such matters so that they will be in a better position to weigh the potential "costs" of tariff reductions for one economic sector against the "benefits" which may accrue to some other.

APPENDIX TABLE 1

Wine Production in Selected Countries
Average, 1934-1938, and Yearly, 1947-1962[a]

Country	Average, 1934-1938	1947	1948	1949	1950	1951
	million United States gallons					
Austria	27	28	27	26	34	26
France	1,652	1,167	1,253	1,134	1,721	1,396
West Germany	81	28[b]	58[c]	36	86	76
Greece	99	94	100	119[b]	113	92
Hungary	88	62	71	119	95	85
Italy	1,016	842	941	1,039	1,052	1,261
Luxembourg	2	3[b]	3[b]	1	4	3
Portugal	211	267	216	231	251	251
Rumania	245			108[b]	112[b]	122[b]
Spain	509	554[b]	375[b]	357	414	414
Switzerland	17	23	21	15	19	26
Yugoslavia	125	108[b]	108[b]	107	87	157
Canada	3	7[b]	6	5[b]	7[b]	4[b]
Argentina	179	273	180[b]	230[b]	180	285
Brazil	14	26	24	18[b]	24	23
Chile	82	69	63[b]	83	95	101
Peru	3	8	8	8	4	3
Uruguay	16	17[b]	19	21	19	19
Israel	1			2	2	2
Japan		1	1	1	1	2
Turkey	2	4	3[b]	4[b]	5	4
Algeria	472	219	334	382	379	363
Morocco	14	11	10	13	19	27
South Africa	35	61[b]	66[b]	65	66[b]	50[b]
Tunisia	44	12	19	23	21	17
Australia	21	40	41[b]	41	32	43
New Zealand		1	1	1	1	1
Total	4,959	3,926	3,948	4,186	4,842	4,849
United States						
Including distilling material[d]		518	315	427	299	427
Excluding distilling material[d]		172	106	141	104	138
World total[e]	5,152	4,597	4,570	4,729	5,178	5,231

(Continued on next page.)

Appendix Table 1, continued.

Country	1952	1953	1954	1955	1956	1957
	million United States gallons					
Austria	18	20	39	28	9	34
France	1,423	1,562	1,608	1,613	1,366	881
West Germany	66	60	75	58	22	55
Greece	90	102	112	94	105	104
Hungary	79	98	98[b]	89	62	86
Italy	1,184	1,388	1,333	1,543	1,664	1,132
Luxembourg	3	3	3	3	2	1
Portugal	153	310	322	300	290	253
Rumania[b]	108	108	108	152	69	
Spain	473	620	462	445	558	459
Switzerland	17	17	16	20	11	10
Yugoslavia	80	101	75	140	85	111
Canada	4[b]	5	6	7	7	7
Argentina	343[b]	282	464	355	228	372
Brazil	27[b]	20[b]	20	36	45	39
Chile	100	93	95	96		95
Peru	4	3[b]	3	3	3	
Uruguay	26	24	20	23		
Israel	1	1	2	2	3	4
Japan	2	2	2	3	3	3
Turkey[b]	5	5	5	7	6	4
Algeria	325	483	509	380	492	404
Morocco	16	31	50[b]	50	56[b]	48
South Africa	67	67	76	85	75	76
Tunisia	18	17	28	30	34	42
Australia	36	38	29	27	37	41
New Zealand	1	1	1	1	1	1
Total	4,668	5,461	5,560	5,590	5,231	4,259
United States						
Including distilling material[d]	525	394	350	382	506	447
Excluding distilling material[d]	170	132	119	132	161	151
World total[e]	4,967	5,706	5,838	5,944	5,680	4,729

(Continued on next page.)

Appendix Table 1, continued.

Country	1958	1959	1960	1961[f]	1962[f/g]
	million United States gallons				
Austria	45	17	21	32	27
France	1,261	1,592	1,667	1,283	1,941
West Germany	117	105	181	87	104
Greece	85	86	77	90	104
Hungary	140	86	78	93	
Italy	1,796	1,754	1,462	1,394	1,796
Luxembourg	3	4	3	3	3
Portugal	227	236	303	196	390
Rumania					
Spain	524	457	562	541	569
Switzerland	16	25	24	18	22
Yugoslavia	153	122	89	113	119
Canada	8	8	8		
Argentina	469	418	443		506
Brazil	38				23
Chile		97	128		132
Peru	2	2	2		
Uruguay	26	21			21
Israel	4	6	4	7	8
Japan	2	3	3	3	
Turkey	6[b]	9[b]	5[b]	7	8
Algeria	365	491	419	413	291
Morocco	55[b]	71	61		
South Africa	76	84	76	91	83
Tunisia	41	44	41	38	47
Australia	39[b]	35	41		49
New Zealand	1	1			1
Total	5,499	5,774	5,696	4,408	6,244
United States					
Including distilling material[d]	425	525	515	494	
Excluding distilling material[d]	147	169	174	170	
World total[e]	6,114	6,499	6,446	5,865	6,736

(Continued on next page.)

Appendix Table 1, continued.

a/ Crop year basis.

b/ Unofficial.

c/ Blanks indicate no data available.

d/ Distilling material is substandard wine produced with excessive water or residue material and used in the production of brandy or high-proof alcohol.

e/ Includes production in countries not specified above.

f/ Converted from hectoliters at the rate of 1 hectoliter equals 26.418 United States gallons.

g/ Preliminary.

Sources:

Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics (Washington, D. C., annual issues).

Idem, Production Yearbook (Rome, annual issues).

U. S. Internal Revenue Service, Statistics Relating to Wine and Tobacco, 1947-1952, annual issues.

Idem, Statistics Relating to Alcohol and Tobacco, 1953-1962, annual issues.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), p. 627.

APPENDIX TABLE 2

Per Capita Consumption of Wine in Selected Countries, 1950-1961

Crop year[a]	France	Italy	West Germany	Belgium	Luxem-bourg	Nether-lands	Spain	Portugal	United States
	United States gallons[b]								
1950	33.3	22.5	1.7	1.5	6.6	0.2	12.4	c	0.93
1951	34.6	23.8	2.1	1.5	6.8	0.1			0.82
1952	34.3	25.1	2.1	1.5	7.3	0.2	13.2	26.2	0.88
1953	35.1	26.4	2.2		7.3	0.2		20.3	0.88
1954	36.2	27.7	2.4		7.4	0.3	14.3	26.4	0.88
1955	36.5	28.5	2.4	1.6	7.3	0.3	14.3	33.8	0.87
1956	36.7	28.5	2.1	1.8	8.1	0.4	17.7	33.0	0.91
1957	32.8	28.5	2.0	1.9	7.9	0.4	16.4	26.7	0.88
1958	32.5	29.9	2.7	2.6	7.3	0.4	12.7	23.5	0.89
1959	33.8	30.4	2.9			0.4			0.87
1960	34.1	29.6	3.5			0.6			0.90
1961	32.8	29.6	3.4			0.6			0.94

a/ Beginning October 1; United States on calendar year basis.

b/ Converted from liters at the rate of 0.26418 litter per United States gallon.

c/ Blanks indicate no data available.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), pp. 937-943.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 385 (Paris, March, 1963), pp. 356-357.

APPENDIX TABLE 3

Total Consumption of Wine in Selected Countries, 1950-1961

Crop year[a]	France	Italy	West Germany	Belgium	Nether-lands	Spain	Portugal	Algeria	United States
	million United States gallons[b]								
1950	1,427	1,050	82	12	2	310	206	25	140
1951	1,496	1,122	103	13	1	[c]	211	25	127
1952	1,495	1,191	106	13	2	396	209	26	138
1953	1,536	1,259	110		2		164	27	141
1954	1,595	1,329	121		3	408	238	29	145
1955	1,618	1,375	124	15	4	402	260	36	145
1956	1,648	1,380	108	16	4	521	249	44	150
1957	1,481	1,386	107	17	4	483	226	42	152
1958	1,494	1,459	146	20	4	386	201	42	155
1959	1,531	1,495	159		5			41	156
1960	1,555	1,465	198		7			39	163
1961	1,517	1,473	191		7			20[d]	172

a/ Beginning October 1; United States on calendar year basis.

b/ Converted from hectoliters at the rate of 1 hectoliter equals 26.418 United States gallons.

c/ Blanks indicate no data available.

d/ October, 1961, through March, 1962.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), pp. 938-943.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXVI, No. 385 (Paris, March, 1963), pp. 356-357.

Ibid., Vol. XXV, No. 379 (Paris, September, 1962), p. 1224.

United States consumption data from Appendix Table 39.

APPENDIX TABLE 4

Total Supply and Consumption of Wine, France, 1950-1961

Crop year[a]	Supply					Consumption			
	Production	Carry-in	Carry-out	Exports	Imports	Total domestic consumption	Losses	Industrial uses	Human consumption
	million United States gallons								
1950	1,628	310	612	44	285	1,569	6	136	1,427
1951	1,341	612	580	57	304	1,619	19	104	1,496
1952	1,392	580	569	74	298	1,626	10	122	1,495
1953	1,510	569	612	87	379	1,759	7	216	1,536
1954	1,556	612	704	87	478	1,855	5	255	1,595
1955	1,592	704	784	112	413	1,813	8	187	1,618
1956	1,329	784	701	83	444	1,773	8	118	1,648
1957	862	701	493	59	532	1,543	7	55	1,481
1958	1,227	493	533	46	430	1,571	7	70	1,494
1959	1,533	533	682	89	424	1,718	21	167	1,531
1960	1,609	682	775	124	411	1,803	17	231	1,555
1961	1,227	775	692	93	446	1,663	7	139	1,517

a/ Beginning October 1.

Source: Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 385 (Paris, March, 1963), pp. 356-357.

APPENDIX TABLE 5

Total Supply and Consumption of Wine, Italy, 1950-1961

Crop year[a]	Supply					Consumption			
	Production	Carry-in	Carry-out	Exports	Imports	Total domestic consumption	Losses	Industrial uses	Human consumption
	million United States gallons								
1950	1,084	317	272	23	b/	1,106	7	49	1,050
1951	1,315	272	374	26	1	1,188	9	57	1,122
1952	1,185	374	279	32	1	1,249	8	50	1,191
1953	1,388	279	348	30	1	1,290	9	22	1,259
1954	1,333	348	294	31	1	1,358	9	20	1,329
1955	1,544	294	394	33	1	1,412	10	27	1,375
1956	1,664	394	578	54	2	1,427	11	36	1,380
1957	1,132	578	224	53	2	1,434	8	40	1,386
1958	1,796	224	467	46	1	1,509	12	37	1,459
1959	1,754	467	571	49	1	1,603	12	96	1,495
1960	1,462	571	443	49	1	1,542	10	67	1,465
1961	1,394	443	265	54	1	1,518	9	36	1,473

a/ Beginning October 1.

b/ Less than 500,000 gallons.

Source: Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 385 (Paris, March, 1963), pp. 356-357.

APPENDIX TABLE 6

Total Supply and Consumption of Wine, West Germany, 1950-1961

Crop year[a]	Supply					Consumption			
	Production	Carry-in	Carry-out	Exports	Imports	Total domestic consumption	Losses	Industrial uses	Human consumption
	million United States gallons								
1950	86	7	29	1	26	88	b/	6	82
1951	82	29	32	1	31	109		7	103
1952	72	32	26	1	39	115		9	106
1953	65	26	19	1	51	123		13	110
1954	82	19	25	2	64	137		16	121
1955	64	25	17	2	78	148		23	124
1956	25	17	11	2	108	135		27	108
1957	60	11	14	3	83	138		31	107
1958	127	14	32	3	70	175		29	146
1959	114	32	43	3	94	194		34	159
1960	196	43	93 c/	4	95	236		38	198
1961	94	101 c/	68	4	109	232		41	191

a/ Beginning October 1.

b/ Blanks indicate no data available.

c/ Unexplained discrepancy.

Source: Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 385 (Paris, March, 1963), pp. 356-357.

APPENDIX TABLE 7

Total Supply and Consumption of Wine, Netherlands, 1950-1961

Crop year[a]	Supply					Consumption			
	Production	Carry-in	Carry-out	Exports	Imports	Total domestic consumption	Losses	Industrial uses	Human consumption
	million United States gallons								
1950	b/				2	2		--c/	2
1951					1	1		--	1
1952					2	2		--	2
1953					2	2		--	2
1954					3	3		--	3
1955					4	4		--	4
1956					5	4		--	4
1957					4	4		--	4
1958					4	4		--	4
1959					5	5		--	5
1960				1	7	7		--	7
1961					7	7		--	7

a/ Beginning October 1.

b/ Blanks indicate less than 500,000 gallons.

c/ Dashes indicate no data available.

Source: Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 385 (Paris, March, 1963), pp. 356-357.

APPENDIX TABLE 8

Exports of Wine from Selected Countries and Areas, 1947-1961[a]

Country or area	1947	1948	1949	1950	1951	1952	1953	1954
	thousand United States gallons[b]							
Europe								
France	14,583	16,379	19,655	25,942	35,770	60,101	73,601	80,152
Italy	12,786	16,723	18,070	17,040	25,890	32,309	31,887	31,147
West Germany	c/	449		317	925	977	1,321	1,876
Belgium and Luxembourg	132	159	53	26	106	370	132	528
Netherlands			26		53	53	53	185
Greece	4,333	8,454	10,012	4,967	5,838	4,861	6,737	7,476
Spain	9,643	22,033	36,272	20,368	24,384	23,618	27,263	40,895
Portugal	21,848	26,392	30,909	26,656	31,992	30,011	28,188	34,211
Other western Europe	36,510	57,988	78,461	56,112	64,249	60,207	64,196	85,357
Eastern Europe	2,351	4,623	3,936	4,861	6,182	3,091	3,804	11,201
Central and South America	1,849	1,875	4,359	1,770	2,246	1,004	845	2,853
Asia	2,325	1,976	1,744	3,883	3,249	3,698	2,959	2,774
Africa								
Algeria	202,335	263,282	235,199	322,669	264,259	308,721	312,023	389,164
Morocco	1,585	1,242	1,374	1,691	7,397	8,084	6,446	16,591
Tunisia	3,223	3,725	12,707	10,884	12,945	10,092	5,786	10,858
All countries	207,196	268,275	249,307	335,244	284,601	326,896	324,255	416,612
Oceania	3,091	3,012	1,506	1,717	1,374	1,427	1,506	1,585
United States	370	238	211	185	159	159	185	159
World total	290,598	377,777	380,419	459,673	427,972	495,338	508,547	635,881

(Continued on next page.)

Appendix Table 8, continued.

Country or area	1955	1956	1957	1958	1959	1960	1961
	thousand United States gallons[b]						
Europe							
France	79,888	85,251	60,286	34,475	50,062	83,217	108,657
Italy	31,332	49,772	50,194	48,847	46,469	51,094	50,855
West Germany	2,087	2,325	4,227	4,676	5,310	5,838	6,763
Belgium and Luxembourg	343	528	211	132	238	845	396
Netherlands	53	317	132	132	106	370	423
Greece	7,450	6,816	6,895	47,394	2,827	3,302	5,786
Spain	31,437	37,329	39,125	86,440	35,638	31,702	40,446
Portugal	42,982	49,032	47,764	60,392	41,793	42,401	43,114
Other western Europe	83,930	96,346	96,056	196,259	82,636	79,862	91,908
Eastern Europe	23,327	30,988	35,057	52,440	41,846	51,885	47,394
Central and South America	2,272	1,743	713	14,530	1,057	687	766
Asia	3,619	4,253	4,305	8,163	4,517	3,566	4,412
Africa							
Algeria	440,071	352,258	425,805	324,466	347,053	385,280	346,895
Morocco	40,314	29,060	35,902	22,429	46,892	36,642	37,381
Tunisia	18,915	19,047	36,510	35,162	34,845	35,664	35,532
All countries	499,300	400,365	498,217	382,057	428,791	457,586	420,046
Oceania	1,585	2,378	2,113	2,113	1,981	2,272	2,563
United States	185	185	238	264	264	291	317
World total	731,250	677,754	755,555	728,978	651,124	717,407	714,079

a/ Crop year basis.

b/ Converted from hectoliters at the rate of 1 hectoliter equals 26.418 United States gallons.

c/ Blanks indicate no data available.

Sources:

1947-1957: Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics (Washington, D. C., annual issues).

1958-1961: Idem, Trade Yearbook (Rome, annual issues).

APPENDIX TABLE 9

Imports of Wine in Selected Countries and Areas, 1947-1961[a]

Country or area	1947	1948	1949	1950	1951	1952	1953	1954
	thousand United States gallons[b]							
Europe								
France	170,740	261,380	272,185	317,756	266,716	310,623	312,393	403,244
Italy	c/	26	1,400	53	1,560	1,321	1,321	1,374
West Germany	977	528	2,906	21,848	26,682	34,793	42,876	52,915
Belgium and Luxembourg	8,348	10,356	11,545	12,337	12,549	13,156	12,760	14,345
Netherlands	1,955	2,880	1,453	1,427	1,717	1,559	1,849	2,695
Other western Europe	42,718	46,364	40,842	44,646	50,247	45,914	48,398	54,474
Eastern Europe	2,827	3,329	c/	264	106	26	634	12,390
Central and South America	8,665	6,393	5,125	5,733	9,854	8,480	8,533	9,061
Asia	3,302	3,699	3,699	5,284	5,812	7,133	6,076	4,491
Africa								
Algeria	264	185	845	845	6,684	11,518	12,469	1,902
All countries	26,418	26,418	29,059	36,985	52,836	65,516	75,291	77,669
Oceania	1,532	1,268	1,162	1,189	1,559	1,242	1,559	1,321
United States	2,140	2,906	3,170	4,650	5,231	5,336	5,970	6,340
World total	274,747	369,852	380,419	459,673	435,897	497,979	516,472	637,995

(Continued on next page.)

Appendix Table 9, continued.

Country or area	1955	1956	1957	1958	1959	1960	1961
	thousand United States gallons[b]						
Europe							
France	493,409	384,091	488,099	526,537	408,422	441,471	395,821
Italy	1,347	1,585	1,585	1,242	1,162	1,215	1,321
West Germany	63,984	93,573	77,643	88,976	90,165	114,126	97,377
Belgium and Luxembourg	14,794	16,194	17,436	15,507	16,194	18,202	19,100
Netherlands	3,302	4,306	4,491	4,385	4,940	5,970	7,582
Other western Europe	56,112	61,528	77,035	70,695	67,921	82,768	92,357
Eastern Europe	13,605	9,933	18,387	21,584	21,795	29,826	34,845
Central and South America	8,454	9,643	8,665	9,907	8,427	5,363	5,838
Asia	3,302	1,453	1,585	1,189	1,585	1,215	766
Africa							
Algeria	3,514	17,172	2,404	1,189	5,944	10,805	16,168
All countries	60,762	89,029	66,838	53,101	59,440	63,007	74,684
Oceania	1,585	1,849	1,717	1,453	1,453	1,955	1,876
United States	7,106	7,767	8,427	8,956	9,801	10,620	12,047
World total	735,609	691,755	781,841	783,056	668,323	755,766	720,472

a/ Crop year basis.

b/ Converted from hectoliters at the rate of 1 hectoliter equals 26.418 United States gallons.

c/ No data available.

Sources:

1947-1957: Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics (Washington, D. C., annual issues).

1958-1961: Idem, Trade Yearbook (Rome, annual issues).

APPENDIX TABLE 10

United States Exports of Domestic Wine, by Country or Area of Destination, 1947-1962[a]

Calendar year	Country or area of destination											
	France	Italy	West Germany	Benelux	Total EEC	Other western Europe	Canada	Central America[b]	South America	Japan	Other countries	Total
	thousand United States gallons											
1947	0.6	0.7	c/	0.6	1.9	3.9	37.2	172.7	31.8	3.3	107.4	358.2
1948	0.8			0.3	1.1	0.2	28.1	98.7	29.3	3.9	65.7	227.0
1949	0.3				0.3	0.3	14.5	129.1	19.6	30.0	20.6	214.4
1950	0.1			0.4	0.5	0.3	18.8	91.3	33.0	21.3	19.1	184.3
1951	0.8	0.5			1.3		3.3	85.5	10.2	31.4	20.9	152.6
1952	2.3		0.5		2.8		6.6	81.7	20.2	29.6	21.2	162.1
1953	1.2				1.2		19.3	76.0	17.1	32.9	27.1	173.6
1954	0.1				0.1	0.4	19.0	71.4	23.2	12.6	39.5	166.2
1955			1.0		1.0	3.6	54.1	44.3	18.2	3.0	59.0	183.2
1956			1.3		1.3		50.7	72.0	7.2	7.8	18.6	157.6
1957			1.8		1.8	1.0	117.4	72.6	7.2	6.7	26.0	232.7
1958						1.5	139.7	71.9	2.7	7.4	21.1	244.3
1959	0.3			0.1	0.4		154.4	41.4	1.8	7.6	29.4	235.0
1960	0.8	0.5	2.7	0.7	4.7	0.5	192.3	43.5	4.5	5.6	24.5	275.6
1961	0.4		1.0	29.4	30.8	1.8	162.1	48.0	4.3	3.3	39.4	289.7
1962	0.6		0.5	0.7	1.8	2.1	152.5	41.7	8.1	1.0	20.0	227.2

a/ Exports by type of wine not available.

b/ Includes Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Canal Zone, Bermuda, Bahama Islands, Jamaica, Haiti, Dominican Republic, Cuba, Leeward and Windward Islands, Netherlands Antilles, and British Honduras.

c/ Blanks indicate that exports, if any, not reported separately but assumed to be included with "other countries."

Source: U. S. Bureau of the Census, United States Exports of Domestic and Foreign Merchandise: Commodity by Country of Destination, Report FT 410, annual issues.

APPENDIX TABLE 11

United States Imports of Still Table Wine for Consumption, by Country or Area of Origin, 1947-1962[a]

Calendar year	Country or area of origin								
	France	Italy	West Germany	Benelux	Total EEC	Greece	Spain	Portugal and Madeira	Other western Europe
	thousand United States gallons								
1947	142	193	19	3	360	14	18	24	9
1948	271	321	68	2	669	29	21	24	14
1949	374	417	60	3	856	28	14	7	13
1950	643	728	124	15	1,510	36	26	10	21
1951	828	887	186	20	1,921	36	29	10	15
1952	769	1,081	205	17	2,072	51	36	13	17
1953	961	1,266	282	28	2,537	47	37	15	24
1954	999	1,257	369	48	2,673	56	41	13	19
1955	1,223	1,223	413	60	2,919	51	61	16	19
1956	1,361	1,446	504	77	3,388	65	60	51	19
1957	1,450	1,582	604	115	3,751	68	70	72	34
1958	1,459	1,739	661	118	3,977	74	109	84	24
1959	1,825	1,827	840	27	4,519	59	129	94	27
1960	2,041	1,926	901	3	4,871	89	152	116	25
1961	2,545	2,066	1,194	3	5,808	85	226	143	30
1962	3,095	2,430	1,126	--[b]	6,651	98	366	172	12

(Continued on next page.)

Appendix Table 11, continued.

Calendar year	Country or area of origin							EEC as percent of total
	Eastern Europe	Chile	Argentina	Israel	Algeria	Other countries	Total c/	
	thousand United States gallons							
1947	2	77	13	1	3	1	519	69.4
1948	4	99	6	1	7	--	868	77.1
1949	4	162	6	2	2	3	1,096	78.1
1950	13	175	3	4	d/	1	1,800	83.9
1951	16	174	3	15		--	2,219	86.6
1952	24	196	3	17	--	--	2,430	85.3
1953	26	142	2	9		--	2,839	89.4
1954	24	133	--	45		--	3,005	89.0
1955	26	275	2	31		--	3,401	85.8
1956	30	140	--	23		1	3,777	89.7
1957	42	112	--	39	--	5	4,193	89.5
1958	48	35	--	82		18	4,452	89.3
1959	50	95	--	63		26	5,062	89.3
1960	73	49	--	90	--	23	5,487	88.8
1961	77	42	--	150	--	37	6,599	88.0
1962	37	39	--	191		145	7,711	86.3

a/ Grape wine, not over 14 percent alcohol.

b/ Dashes indicate less than 1,000 gallons.

c/ Total may not equal sum of imports from specified countries because of rounding of numbers.

d/ Blanks indicate that imports, if any, not reported separately but assumed to be included with "other countries."

Source: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

APPENDIX TABLE 12

United States Imports of Dessert Wine for Consumption, by Country or Area of Origin, 1947-1962[a]

Calendar year	Country or area of origin							
	France	Italy	West Germany	Benelux	Total EEC	Greece	Spain	Portugal, Azores, and Madeira
	thousand United States gallons							
1947	3	47	--[b]	--	51	3	416	192
1948	4	35	--	--	40	8	363	222
1949	5	31	--	1	36	11	355	152
1950	11	36	--	--	47	11	382	203
1951	8	41	1	7	56	11	389	125
1952	7	37	--	--	45	13	454	147
1953	6	57	1	1	64	13	476	190
1954	7	42	--	1	51	13	451	157
1955	6	47	--	2	56	12	477	151
1956	11	57	1	2	71	13	468	165
1957	10	67	1	5	83	12	480	157
1958	10	72	1	3	86	13	456	142
1959	11	74	--	1	85	10	464	162
1960	9	74	1	c/	83	11	483	153
1961	12	74	3		89	12	545	158
1962	30	81			111		608	156

(Continued on next page.)

Appendix Table 12, continued.

Calendar year	Country or area of origin							EEC as percent of total
	Other western Europe	Eastern Europe	Chile	Argentina	Israel	Other countries	Total[d/]	
	thousand United States gallons							
1947	5			11	7	4	689	7.4
1948	16	--	2	--	7	1	658	6.1
1949	14	--	1	1	9	6	584	6.2
1950	47	--	1	--	16	1	708	6.6
1951	88	1			13	3	687	8.2
1952	9	--		--	6	2	676	6.7
1953	3	1			4	--	750	8.5
1954	4	2			3	1	682	7.5
1955	19	1			6	--	722	7.8
1956	26	3			5	1	752	9.4
1957	84	2			3	--	822	10.1
1958	34	2			2	2	737	11.7
1959	19	3			2	1	747	11.4
1960	5	--			6	1	742	11.2
1961	5	2			4	1	815	10.9
1962					2	90	968	11.5

a/ Grape wine, over 14 but less than 24 percent alcohol.

b/ Dashes indicate less than 1,000 gallons.

c/ Blanks indicate that imports, if any, not reported separately but assumed to be included with "other countries."

d/ Total may not equal sum of imports from specified countries because of rounding of numbers.

Source: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

APPENDIX TABLE 13

United States Imports of Vermouth Wine for Consumption, by Country or Area of Origin, 1947-1962

Calendar year	Country or area of origin							
	France	Italy	West Germany	Benelux	Total EEC	Greece	Spain	Portugal
	thousand United States gallons							
1947	264	355	a/		618	1	1	1
1948	318	648			966	--b/	2	--
1949	304	696		--	1,001	1	--	1
1950	416	1,054		2	1,471	3	3	1
1951	504	1,034	--	--	1,538	--	1	1
1952	429	1,158	7	--	1,594	1	2	
1953	513	1,256	1	2	1,771	1	1	1
1954	500	1,358			1,858	1	5	
1955	588	1,503		--	2,091	1	--	--
1956	597	1,667		--	2,265	1	--	
1957	658	1,727	1	--	2,387	1	1	
1958	731	2,028	1	6	2,766	--	--	1
1959	808	2,080	1	3	2,892	1	2	
1960	846	2,320	2	1	3,168	--	--	
1961	796	2,544	2	14	3,356	--	1	--
1962	904	2,863			3,767			

(Continued on next page.)

Appendix Table 13, continued.

Calendar year	Country or area of origin						EEC as percent of total
	Other western Europe	Eastern Europe	Chile	Argentina	Other countries	Total[c]	
	thousand United States gallons						
1947	--		25	216	--	862	71.7
1948	1		2	8	--	979	98.7
1949	11			7	--	1,021	98.0
1950	--			6	--	1,484	99.1
1951	3	2		--	--	1,545	99.5
1952	--	4		--	--	1,601	99.6
1953	4	--			1	1,779	99.6
1954	--					1,865	99.6
1955	--					2,092	100.0
1956		--		--		2,266	100.0
1957	1				--	2,390	100.0
1958	1				--	2,770	99.9
1959	1	1			--	2,897	99.8
1960	4	2			--	3,175	99.8
1961	9	2			1	3,368	99.6
1962					12	3,779	99.7

a/ Blanks indicate that imports, if any, not reported separately but assumed to be included with "other countries."

b/ Dashes indicate less than 1,000 gallons.

c/ Total may not equal sum of imports from specified countries because of rounding of numbers.

Source: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

APPENDIX TABLE 14

United States Imports of Champagne and Sparkling Wine for Consumption, by Country or Area of Origin, 1947-1962

Calendar year	Country or area of origin						
	France	Italy	West Germany	Benelux	Total EEC	Spain	Portugal
	thousand United States gallons						
1947	152	21	--a/	--	173	--	2
1948	338	24	1	1	365	1	6
1949	381	19	1	3	404	1	13
1950	549	24	2	2	577	1	13
1951	586	30	2	8	626	2	14
1952	484	32	4	2	523	1	17
1953	533	40	7	1	582	1	20
1954	543	53	10	3	609	--	28
1955	589	59	11	3	662	1	23
1956	623	68	15	7	713	2	33
1957	618	75	15	13	721	3	40
1958	600	89	19	11	719	1	55
1959	629	100	20	16	765	1	85
1960	671	117	25	7	820	1	111
1961	669	121	29	2	820	2	131
1962	684	139	21	b/	844		164

(Continued on next page.)

Appendix Table 14, continued.

Calendar year	Country or area of origin						EEC as percent of total
	Other western Europe	Eastern Europe	Chile	Argentina	Other countries	Total c/	
	thousand United States gallons						
1947	--		3	3	--	182	95.1
1948	--		2	1	--	375	97.3
1949	1		10	2	1	431	93.7
1950	--		1	--	--	593	97.3
1951	--		1	--	1	644	97.2
1952	1		1	--	--	543	96.3
1953	--		1		--	604	96.4
1954	--	--	1			638	95.5
1955	1		--			687	96.4
1956	1				--	749	95.2
1957	7	--	--		2	773	93.3
1958	2	--			3	780	92.2
1959	2	1	--		5	860	90.0
1960	1	--	--	--	7	940	87.2
1961	2	--		--	8	964	85.1
1962					28	1,036	81.5

a/ Dashes indicate less than 1,000 gallons.

b/ Blanks indicate that imports, if any, not reported separately but assumed to be included with "other countries."

c/ Total may not equal sum of imports from specified countries because of rounding of numbers.

Source: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

APPENDIX TABLE 15

United States Imports of Brandy for Consumption, by Country or Area of Origin 1947-1962

Calendar year	Country or area of origin							
	France	Italy	West Germany	Benelux	Total EEC	Greece	Spain	Portugal
	thousand United States gallons							
1947	199	1	a/	--b/	200	1	41	63
1948	345	1	2	1	350	1	50	91
1949	448	12	1	2	463	3	52	61
1950	634	30	3	4	671	2	52	44
1951	769	49	4	2	824	3	53	69
1952	667	40	6	2	715	4	46	69
1953	771	52	9	3	836	3	57	78
1954	848	55	10	6	919	4	67	72
1955	949	67	14	11	1,041	5	91	48
1956	1,027	115	19	4	1,166	4	84	78
1957	1,094	119	22	13	1,249	4	97	84
1958	1,018	207	26	27	1,278	6	102	143
1959	1,167	143	30	15	1,354	18	119	130
1960	1,241	191	37	5	1,474	11	150	145
1961	1,284	222	40	--	1,546	5	163	159
1962	1,417	171	37		1,625		140	137

(Continued on next page.)

Appendix Table 15, continued.

Calendar year	Country or area of origin						EEC as percent of total
	Other western Europe	Eastern Europe	Chile	Argentina	Other countries	Total[c/]	
	thousand United States gallons						
1947	1		1	1	17	326	61.3
1948	--	1	8	1	15	518	67.6
1949		9	3	--	11	603	76.8
1950	2	7	6	--	7	791	84.8
1951	2	13	6	--	11	981	84.0
1952	1	11	3	--	7	857	83.4
1953	1	4			10	988	84.6
1954	5	8			10	1,084	84.8
1955	15	8			6	1,215	85.7
1956	21	8			7	1,368	85.2
1957	38	11	--		8	1,491	83.8
1958	18	9			7	1,564	81.7
1959	20	10	--		7	1,657	81.7
1960	24	14	--		11	1,828	80.6
1961	5	16			10	1,903	81.2
1962					130	2,033	79.9

a/ Blanks indicate that imports, if any, not reported separately but assumed to be included with "other countries."

b/ Dashes indicate less than 1,000 gallons.

c/ Total may not equal sum of imports from specified countries because of rounding of numbers.

Source: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

APPENDIX TABLE 16

Exports of Wine from France, by Destination, 1949-1962

Calendar year	Destination									
	French overseas territories	West Germany	Great Britain	Switzerland	Netherlands	Denmark	Sweden	Norway	United States	Belgium and Luxembourg
	million United States gallons									
1949	5.7	1.3	1.6	2.8	0.6	0.3	0.5	0.2	0.7	3.1
1950	6.9	4.5	2.3	3.4	0.7	0.5	0.4	0.3	1.4	3.5
1951	14.6	3.4	3.5	4.8	0.5	0.3	0.6	0.3	2.0	4.2
1952	16.8	4.4	3.2	3.7	0.7	0.4	0.6	0.4	1.7	4.4
1953	16.6	9.5	5.8	4.8	0.5	0.3	0.6	0.1	2.0	4.6
1954	41.4	17.3	3.9	5.0	0.8	0.4	0.8	0.2	2.1	5.9
1955	30.7	22.2	4.7	4.8	1.1	0.4	0.9	0.2	2.6	5.9
1956	36.9	33.0	4.2	5.9	1.3	0.5	1.1	0.3	2.6	7.0
1957	4.4	15.7	4.1	5.4	1.1	0.5	1.7	0.3	2.6	5.9
1958	6.9	7.9	3.3	3.4	0.6	0.3	1.4	0.1	2.9	3.6
1959	11.9	15.6	4.0	5.0	1.1	0.5	1.9	0.2	2.9	5.8
1960	23.8	31.2	4.9	7.4	1.3	0.6	2.3	0.4	3.6	6.8
1961	a/	22.5	4.9	7.2			1.0		2.7	6.8
1962		35.7	6.1	7.0			1.6		3.1	8.2

a/ Blanks indicate no data available.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 905.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), pp. 618-619.

Ibid., Vol. XXXV, No. 378 (Paris, August, 1962), p. 1085.

APPENDIX TABLE 17

Exports of Wine from Italy, by Destination, 1949-1961

Calendar year	Destination									
	Austria	West Germany	Switzer-land	Belgium	Nether-lands	Brazil	United Kingdom	Denmark	Czecho-slovakia	United States
	million United States gallons									
1949	1.2	0.7	9.0	0.6	0.1	0.5	0.3	0.4	0.1	0.4
1950	1.4	4.4	10.2	1.1	0.1	0.2	0.6	0.3	0.5	0.9
1951	1.0	4.4	9.7	1.0	0.1	0.3	0.8	0.2	0.1	1.6
1952	1.4	4.4	9.9	1.6	0.1	0.3	0.5	0.3	a/	2.0
1953	2.2	4.0	9.7	1.4	0.2	0.1	0.9	0.6	0.1	2.4
1954	1.9	4.7	9.3	1.1	0.2		1.0	0.6	0.1	2.7
1955	1.6	5.8	9.4	1.2	0.2		1.2	0.4		2.9
1956	3.6	19.9	10.0	1.3	0.3		1.3	0.4		3.3
1957	5.0	12.6	13.9	1.8	0.4	0.1	1.3	0.3	0.3	3.3
1958	3.4	27.2	13.3	2.3	0.7		1.4	0.4	0.4	3.8
1959	3.4	28.4	11.5	2.1	0.9		1.8	0.4	0.4	3.9
1960	7.1	30.9	12.2	2.3	1.8	b/	2.2	0.4	0.4	4.2
1961	6.1	33.7	12.2	2.1	1.7	b/	2.4	0.4	0.3	4.9

a/ Blanks indicate less than .050 million gallons.

b/ No data available.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V., (Paris: Imprimerie Alençonnaise, 1960), p. 909.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), p. 623.

APPENDIX TABLE 18

Exports of Wine from West Germany, by Destination, 1949-1962

Calendar year	Destination						
	Denmark	Switzer-land	United States	Benelux	Great Britain	France	Sweden
	million United States gallons						
1949	--a/	--	--	--	--	b/	--
1950	0.1	--	0.1	0.1	0.2	--	0.1
1951	0.1	--	0.2	0.1	--	0.1	0.1
1952	0.1	--	0.2	0.1	--	0.1	0.1
1953	--	--	0.3	0.2	0.3	0.2	0.1
1954	--	--	0.4	0.2	0.5	0.2	0.1
1955			0.4	0.2	0.6	0.3	0.1
1956			0.6	0.3	0.6		0.1
1957			0.6	0.2	0.6		0.1
1958	0.1	0.1	0.6	0.2	0.7		0.1
1959c/			0.8	0.4	0.8		0.2
1960c/			0.9	0.4	1.1		0.2
1961c/			1.2	0.5	1.2		0.2
1962c/			1.0	0.4	1.0		0.3

a/ Dashes indicate less than .050 million gallons.

b/ Blanks indicate no data available.

c/ White wine only.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 898.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), p. 617.

Ibid., Vol. XXXV, No. 382 (Paris, December, 1962), p. 1684.

APPENDIX TABLE 19

Exports of Wine from the Netherlands, by Destination, 1949-1958

Calendar year	Destination			
	Belgium	West Germany	Indonesia	United States
	million United States gallons			
1949	--[a]	0.1	--	[b]
1950	--	0.1	--	--
1951				
1952	--			--
1953	0.1			--
1954	0.2			0.2
1955	0.1			--
1956	0.3			--
1957	0.1			--
1958	0.1			--

a/ Dashes indicate less than .050 million gallons.

b/ Blanks indicate no data available.

Source: Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 913.

APPENDIX TABLE 20

Exports of Wine from Luxembourg, by Destination, 1949-1958

Calendar year	Destination				
	Belgium	Nether-lands	Denmark	Belgian Congo	West Germany
	million United States gallons				
1949	0.5	--a/	--	--	b/
1950	0.5	--		--	
1951	1.0	0.1			--
1952	1.2	0.1		--	0.2
1953	1.0	0.1		--	--
1954	1.1	0.1			0.3
1955	1.1	0.2			0.1
1956					
1957	0.8	0.1			--
1958	0.5	0.1			--

a/ Dashes indicate less than .050 million gallons.

b/ Blanks indicate no data available.

Source: Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 911.

APPENDIX TABLE 21

Exports of Wine from Algeria, by Destination, 1949-1961

Calendar year	Destination					
	France	French Equatorial and French Occidental Africa	Indochina	Madagascar	Morocco	Martinique and Réunion Islands
	million United States gallons					
1949	223.0	3.8	1.0	0.5	2.0	0.4
1950	309.8	4.1	1.8	0.8	0.6	0.4
1951	248.0	4.6	2.4	1.6	0.2	0.4
1952	297.6	1.0	1.8	0.4	0.3	0.5
1953	295.6	1.1	1.8	0.4	0.8	0.7
1954	377.5	1.4	1.6	0.6	0.2	0.8
1955	428.0	2.2	0.4	1.0	0.2	1.1
1956	313.9	1.8	a/	1.0	0.1	1.0
1957	415.1	2.1		1.0	0.1	0.8
1958	318.9	1.3		0.7	--b/	0.5
1959						
1960						
1961	337.5					1.1

	Tunisia	West Germany	Belgium and Luxembourg	Sweden	Switzerland	Great Britain
1949	--	--	0.3	0.1	1.5	--
1950	--	0.2	0.2	0.2	1.3	--
1951	0.6	0.4	0.4	0.3	1.7	--
1952	0.1	0.5	0.5	0.4	1.4	--
1953	0.1	0.4	0.4	0.4	0.7	--
1954	0.1	0.4	0.5	0.4	0.9	--
1955	0.1	0.3	0.6	0.3	1.1	--
1956	--	0.6	0.9	0.3	1.1	0.1
1957	--	0.2	0.7	0.3	1.2	0.1
1958	--	0.1	0.2	0.2	0.5	--
1959						
1960						
1961		0.4		0.4	1.1	

a/ Blanks indicate no data available.

b/ Dashes indicate less than .050 million gallons.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 906.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXV, No. 379 (Paris, September, 1962), p. 1225.

APPENDIX TABLE 22

Exports of Wine from Spain, by Destination, 1949-1961

Calendar year	Destination								
	West Germany	Austria	Belgium	Brazil	France	Great Britain	Switzer-land	Holland	Denmark
	million United States gallons								
1949	0.4	0.5	0.8	0.3	7.9	3.2	3.4	a/	
1950	3.7		0.7			6.6			
1951	3.1		0.5			5.8			
1952	3.4		0.7			5.5			
1953									
1954	13.5		6.3				12.3	0.8	0.8
1955	6.7		2.5				7.6	0.9	0.9
1956	12.0		1.2				14.0	1.3	1.4
1957	5.1	1.9	2.3		3.7	5.6	11.7		
1958	9.5	9.0	2.5		15.3	5.6	16.3	1.0	
1959	11.2		2.5		1.1		8.2	1.4	
1960	5.2		2.6		0.3		6.2	1.1	
1961	8.3		3.3		0.5		8.6	1.0	

a/ Blanks indicate no data available.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 903.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXV, No. 375 (Paris, May, 1962), p. 654.

APPENDIX TABLE 23

Exports of Wine from Portugal, by Destination, 1949-1962

Calendar year	Destination							
	West Germany	England	Belgium and Luxembourg	Portuguese overseas territories	Belgian Congo	France	Holland	Switzerland
	million United States gallons							
1949	a/	3.4	3.7	12.4	0.6	6.8	0.2	1.5
1950	0.5	2.4	3.0	13.2	0.6	0.9	0.3	1.1
1951	0.4	2.8	2.7	18.5	0.5	1.0	0.4	0.3
1952	0.6	2.8	2.7	19.0	0.6	1.1	0.1	0.4
1953	1.0	1.4	2.0	18.0	0.9	1.0	0.1	0.2
1954	0.9	2.1	1.6	24.1	0.9	1.1	0.3	0.3
1955	0.9	2.1	2.7	26.7	2.4	1.2	0.6	2.3
1956	2.1	2.2	3.5	31.0	2.2	1.7	1.0	1.1
1957	1.7	2.3	3.5	30.2	1.7	1.6	0.8	1.7
1958	3.8	1.2	3.8	26.9	0.8	16.5	1.0	1.3
1959	1.2		1.6	27.2	0.9	1.6		1.3
1960	1.4		1.3	29.2	0.8	1.2		1.6
1961	1.7		1.3	27.7	0.3	1.9		3.0
1962	2.7		1.5	23.0	0.4	2.3		2.0

a/ Blanks indicate no data available.

Sources:

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 914.

Office International de la Vigne et du Vin, Bulletin de l'O.I.V., Vol. XXXVI, No. 387 (Paris, May, 1963), p. 625.

Ibid., Vol. XXXV, No. 378 (Paris, August, 1962), p. 1090.

APPENDIX TABLE 24

Exports of Wine from Greece, by Destination, 1949-1953

Calendar year	Destination							
	Belgium	France	Switzer-land	Great Britain	Italy	Nether-lands	Malta	West Germany
	million United States gallons							
1949	0.5	5.8	1.5	--[a]	--	0.1	1.3	[b]
1950	0.6	0.2	1.3	0.1	--	--	0.7	
1951	0.5	0.7	0.8	--			0.6	2.5
1952	0.7	0.1	0.3	0.1			0.2	2.4
1953	0.4		0.5				0.2	4.4

a/ Dashes indicate less than .050 million gallons.

b/ Blanks indicate no data available.

Source: Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), p. 907.

APPENDIX TABLE 25

Acreage Planted to Grapes in Selected Countries, 1950-1961

Calendar year	France	Italy[a]	West Germany	Luxembourg[b]	Total EEC	Algeria	Greece	Spain	Portugal	United States[c]	World
	thousand acres										
1950	3,748	3,917	122	3	7,790	976	522	3,745	692	521	20,651
1951	3,679	4,127	164	3	7,973	1,006	527	3,782	689	500	20,928
1952	3,757	4,324	159	3	8,243	999	571	4,049	636	479	21,682
1953	3,717	4,324	167	3	8,211	991	577	4,124	716	466	22,266
1954	3,746	4,324	178	3	8,251	987	578	3,918	731	456	22,210
1955	3,685	4,201	170	3	8,059	981	557	3,945	718	441	22,006
1956	3,603	4,201	170	3	7,977	980	568	3,983	770	434	22,244
1957	3,625	4,272	167	3	8,067	926	578	3,897	715	430	22,399
1958	3,603	4,260	168	3	8,034	907	551	3,938	785	441	22,898
1959	3,618	4,431	188	d/	8,237	904	551	4,186	793	455	24,463
1960	3,613	4,416	193		8,222	909	544	4,265	798	462	24,957
1961[e]		4,423	195							470	

a/ Estimated 1950-1956.

b/ Unofficial.

c/ California only.

d/ Blanks indicate no data available.

e/ Preliminary.

Sources:

Food and Agriculture Organization of the United Nations, Monthly Bulletin of Agricultural Economics and Statistics, Vol. XI (Rome, July/August, 1962), p. 6.

Office International de la Vigne et du Vin, Mémento de l'O.I.V. (Paris: Imprimerie Alençonnaise, 1960), pp. 806-807.

United States data from Appendix Table 26.

APPENDIX TABLE 26

Bearing and Nonbearing Acreage of Grapes, California, 1947-1963

Crop year	All grapes		Raisin varieties		Table varieties		Wine varieties	
	Bearing	Non-bearing	Bearing	Non-bearing	Bearing	Non-bearing	Bearing	Non-bearing
	acres							
1947	489,052	66,493	236,487	22,509	89,535	15,658	163,030	28,326
1948	494,498	52,712	235,526	21,058	93,302	12,402	165,670	19,252
1949	496,636	37,633	235,180	16,142	94,575	9,082	166,881	12,409
1950	496,364	24,332	237,673	10,745	93,685	6,561	165,006	7,026
1951	480,834	19,117	231,467	8,849	91,329	5,547	158,038	4,721
1952	463,510	15,294	223,350	7,354	86,002	4,036	154,158	3,904
1953	454,096	11,829	223,940	5,666	83,953	2,942	146,203	3,221
1954	445,522	10,926	223,907	6,260	82,524	2,308	139,091	2,358
1955	423,774	17,184	207,136	10,762	80,519	3,685	136,119	2,737
1956	407,507	26,211	202,806	15,469	76,191	7,627	128,510	3,115
1957	399,000	30,817	203,204	17,481	75,327	8,056	120,469	5,280
1958	406,847	34,591	209,807	21,779	78,042	6,139	118,998	6,673
1959	409,101	45,690	212,954	29,343	78,962	7,603	117,185	8,744
1960	416,180	45,710	217,171	30,676	80,937	6,605	118,072	8,429
1961	424,876	45,527	226,711	26,755	81,772	7,731	116,393	11,041
1962	444,146	30,207	240,008	16,080	84,130	4,450	120,008	9,677
1963	449,200	a/	245,300		84,600		119,300	

a/ Blanks indicate no data available.

Sources:

California Crop and Livestock Reporting Service, California Fruit and Nut Crops, 1909-1955: Acreage, Production, Utilization and Value, Special Publication 261 (Sacramento, 1956), pp. 34-44.

Idem, Acreage Estimates: California Fruit and Nut Crops (Sacramento, annual issues).

Idem, California Fruit and Nut Acreage (Sacramento, annual issues).

APPENDIX TABLE 27

Yield Per Acre of Grapes, California, 1947-1962

Crop year	All grapes	Raisin varieties	Table varieties	Wine varieties
	tons			
1947	5.8	7.2	6.9	3.2
1948	5.8	7.1	6.3	3.7
1949	5.0	6.0	5.4	3.2
1950	4.9	5.6	6.3	3.1
1951	6.7	7.8	8.3	4.1
1952	6.4	7.4	7.5	4.3
1953	5.4	6.8	5.2	3.6
1954	5.2	5.6	5.8	4.3
1955	7.1	8.3	8.8	4.4
1956	6.5	8.0	5.9	4.4
1957	6.0	6.8	6.3	4.4
1958	6.7	7.8	6.8	4.9
1959	7.0	8.2	6.7	4.9
1960	6.5	7.5	6.9	4.3
1961	6.6	8.3	5.4	4.1
1962	6.5	6.8	6.8	5.3

Sources:

California Crop and Livestock Reporting Service, California Fruit and Nut Crops, 1909-1955: Acreage, Production, Utilization and Value, Special Publication 261 (Sacramento, 1956), pp. 34-44.

Idem, Acreage Estimates: California Fruit and Nut Crops (Sacramento, annual issues).

Idem, California Fruit and Nut Acreage (Sacramento, annual issues).

Idem, California Fruit: Annual Summary (Sacramento, December issues).

APPENDIX TABLE 28

Production of Grapes, California, Other States, and United States, 1947-1962

Crop year	California				Other states, all grapes	United states, all grapes	California as percent of United States
	All grapes	Raisin varieties	Table varieties	Wine varieties			
	thousand tons, fresh basis						
1947	2,836	1,699	620	517	184	3,020	93.9
1948	2,891	1,679	592	620	170	3,061	94.4
1949	2,465	1,421	506	538	149	2,614	94.3
1950	2,432	1,332	588	512	246	2,678	90.8
1951	3,219	1,809	759	651	159	3,378	95.3
1952	2,958	1,654	648	656	198	3,156	93.7
1953	2,473	1,515	435	523	217	2,690	91.9
1954	2,327	1,248	482	597	236	2,563	90.8
1955	3,020	1,710	709	601	221	3,241	93.2
1956	2,641	1,618	453	570	271	2,912	90.7
1957	2,382	1,373	474	535	217	2,599	91.6
1958	2,741	1,631	530	580	285	3,026	90.6
1959	2,861	1,749	532	580	276	3,137	91.2
1960	2,694	1,623	560	511	303	2,997	89.9
1961	2,804	1,885	445	474	288	3,092	90.7
1962	2,899	1,678	578	643	249	3,148	92.1

Sources:

California Crop and Livestock Reporting Service, California Fruit and Nut Crops, 1909-1955: Acreage, Production, Utilization and Value, Special Publication 261 (Sacramento, 1956), pp. 34-44.

Idem, California Fruit: Annual Summary (Sacramento, December issues).

U. S. Department of Agriculture, Agricultural Statistics, annual issues.

APPENDIX TABLE 29

Grape Crush, California, 1947-1962

Crop year	Total crush	Raisin varieties	Table varieties	Wine varieties
	thousand tons, fresh basis			
1947	966	274	291	401
1948	1,386	534	334	518
1949	888	203	237	448
1950	1,291	539	318	434
1951	1,643	654	429	560
1952	1,202	303	325	574
1953	1,012	379	194	439
1954	1,107	374	218	515
1955	1,516	568	424	524
1956	1,278	579	208	491
1957	1,197	486	250	461
1958	1,458	661	293	504
1959	1,400	600	289	511
1960	1,352	604	308	440
1961	1,380	720	241	419
1962	1,530	648	302	580

Sources:

1947-48: California Crop and Livestock Reporting Service, California Fruit and Nut Crops, 1909-1955: Acreage, Production, Utilization and Value, Special Publication 261 (Sacramento, 1956), pp. 35-45.

1949-1961: Idem, California Fruit and Nut Crops: Acreage, Production, Utilization and Value, 1949-1961 (Sacramento, 1962), pp. 14-20.

1962: Idem, California Fruit: 1962 Annual Summary (Sacramento, December, 1962), 4p.

APPENDIX TABLE 30

Average Returns to Growers for Grapes Crushed, Total Value of Grapes Crushed, and Total Value of All Grapes Produced, California, 1947-1962

Crop year	Total crush	Raisin varieties	Table varieties	Wine varieties	Total value of grapes crushed	Total value of all grapes produced	Column 5 as percent of column 6
	1	2	3	4	5	6	7
	dollars per ton				million dollars		
1947	29.80	29.40	25.70	33.00	28.8	102.1	28.2
1948	30.30	30.00	22.40	35.70	42.0	102.9	40.8
1949	26.80	25.30	22.50	29.80	23.8	80.0	29.7
1950	61.00	59.50	50.10	70.80	78.8	158.2	49.8
1951	30.90	29.20	21.40	40.30	50.8	121.0	42.0
1952	25.60	23.80	18.60	30.50	30.8	106.7	28.9
1953	36.20	33.80	31.10	40.50	36.6	106.7	34.3
1954	38.50	38.50	31.90	41.40	42.6	107.3	39.7
1955	30.10	29.90	23.50	35.60	45.6	118.0	38.6
1956	39.20	39.30	30.00	42.90	50.1	126.2	39.7
1957	50.90	52.30	44.50	53.00	60.9	142.0	42.9
1958	48.90	52.10	39.50	50.20	71.3	173.4	41.1
1959	42.90	41.80	36.30	47.80	60.1	142.4	42.2
1960	40.70	36.10	30.00	54.60	55.0	133.9	41.1
1961	49.60	38.40	35.60	76.80	68.4	149.1	45.9
1962	51.00	44.10	41.90	63.40	78.0	168.5	46.3

Sources:

1947-48: California Crop and Livestock Reporting Service, California Fruit and Nut Crops, 1909-1955: Acreage, Production, Utilization and Value, Special Publication 261 (Sacramento, 1956), pp. 34-44.

1949-1961: Idem, California Fruit and Nut Crops: Acreage, Production, Utilization and Value, 1949-1961 (Sacramento, 1962), pp. 14-20.

1962: Idem, California Fruit: 1962 Annual Summary (Sacramento, December, 1962), 4p.

APPENDIX TABLE 31

Gross Wine and Brandy Production, California, 1947-1962

Year[a]	Table wine[b]	Dessert wine[b]	Vermouth and other special natural wines	Sparkling wine	All brandy[c]	Storage cooperage in California on December 31
	thousand gallons					
1947	28,554	75,461	482	418	25,091	309,966
1948	32,491	108,390	618	322	35,730	308,455
1949	28,481	71,754	746	395	23,259	309,337
1950	24,280	100,672	821	480	34,850	306,831
1951	46,623	116,946	842	443	44,576	300,937
1952	37,392	83,424	1,062	416	32,078	301,814
1953	30,625	79,019	1,116	493	27,216	300,902
1954	31,182	87,625	1,045	633	29,551	299,354
1955	38,777	108,481	1,376	994	42,173	301,468
1956	38,001	90,654	1,527	1,171	36,451	305,415
1957	34,074	94,356	5,518	1,286	34,197	308,688
1958	44,446	102,229	11,072	1,275	41,803	313,735
1959	44,423	101,728	12,842	1,782	46,180	321,118
1960	52,515	90,754	15,106	1,984	39,472	323,149
1961	55,512	90,566	16,120	2,034	38,486	334,771
1962	64,911	96,436	15,911	2,140	37,041	360,253

a/ July-December only for table and dessert wine; vermouth and other special natural wines and sparkling wine on calendar year basis.

b/ Includes wine used in the production of vermouth, other special natural wines, and sparkling wines.

c/ In tax gallons (same as proof gallons).

Source: Wine Institute, Twenty-Seventh Annual Wine Industry Statistical Survey, Part I, No. 1202 (San Francisco, 1963), pp. 4-5.

APPENDIX TABLE 32

Shipments of California Wine, by Type, 1947-1962[a]

Calendar year	Shipments in California				Shipments to all markets			
	Table wine	Dessert wine[b]	Sparkling wine[c]	All wine	Table wine	Dessert wine[b]	Sparkling wine[c]	All wine
	thousand gallons							
1947	5,000	10,297	198	15,495	17,688	68,207	313	86,208
1948	5,585	13,880	202	19,667	20,053	87,848	397	108,298
1949	6,431	15,073	207	21,711	21,497	95,826	378	117,701
1950	6,909	14,535	292	21,736	22,650	96,961	423	120,034
1951	7,140	12,958	290	20,388	20,651	81,700	435	102,786
1952	7,852	15,227	292	23,371	23,165	92,577	457	116,199
1953	8,478	16,725	348	25,551	24,696	93,265	565	118,526
1954	9,176	15,453	341	24,970	25,603	90,952	556	117,111
1955	10,009	15,847	463	26,319	26,440	90,770	789	117,999
1956	10,358	17,025	560	27,943	27,781	95,332	1,080	124,193
1957	10,571	16,779	619	27,969	28,206	95,025	1,076	124,307
1958	11,337	17,247	659	29,243	29,804	91,464	1,195	122,463
1959	11,983	17,686	803	30,472	31,203	91,772	1,497	124,472
1960	15,201	17,006	915	33,122	35,898	91,751	1,706	129,355
1961	16,435	17,828	996	35,259	38,639	94,270	1,931	134,840
1962[d]	17,464	16,696	1,076	35,236	39,770	85,914	1,972	127,656

a/ State tax-paid shipments within California and tax-exempt shipments to points outside California.

b/ Includes vermouth and other special natural wines.

c/ Converted from taxable units at the rate of 20 taxable units per gallon. Beginning with July, 1955, data are reported in gallons.

d/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part I (San Francisco, annual issues).

APPENDIX TABLE 33

Total Commercially Produced Wine Entering Distribution Channels in the United States, by Origin, 1947-1962

Calendar year	United States-produced wine						Foreign-produced wine		Total, all wine
	California a/		Other states b/		Total United States				
	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	
	thousand gallons		thousand gallons		thousand gallons		thousand gallons		thousand gallons
1947	85,909	88.9	8,484	8.8	94,393	97.7	2,267	2.3	96,600
1948	108,104	88.4	11,285	9.2	119,389	97.6	2,901	2.4	122,290
1949	117,511	88.6	11,862	9.0	129,373	97.6	3,194	2.4	132,567
1950	119,838	85.4	15,874	11.3	135,712	96.7	4,667	3.3	140,379
1951	102,655	81.2	18,637	14.7	121,292	95.9	5,222	4.1	126,514
1952	116,061	84.3	16,187	11.8	132,248	96.1	5,372	3.9	137,620
1953	118,378	84.1	16,262	11.5	134,640	95.6	6,156	4.4	140,796
1954	116,970	82.3	18,784	13.2	135,754	95.5	6,402	4.5	142,156
1955	117,850	81.2	20,178	13.9	138,028	95.1	7,158	4.9	145,186
1956	124,058	82.7	18,162	12.1	142,220	94.8	7,819	5.2	150,039
1957	124,109	81.7	19,272	12.7	143,381	94.4	8,500	5.6	151,881
1958	122,263	79.1	23,322	15.0	145,585	94.1	9,048	5.9	154,633
1959	124,272	79.5	22,047	14.2	146,319	93.7	9,905	6.3	156,224
1960	129,155	79.1	23,461	14.3	152,616	93.4	10,736	6.6	163,352
1961	134,498	78.4	24,981	14.5	159,479	92.9	12,153	7.1	171,632
1962 c/	127,392	75.8	26,649	15.8	154,041	91.6	14,049	8.4	168,090

a/ Includes California wine exported.

b/ Calculated.

c/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 34

Total Commercially Produced Table Wine
Entering Distribution Channels in the United States, by Origin, 1947-1962

Calendar year	United States-produced wine		Foreign-produced wine[a]		Total, all wine
	Volume	Percent of total	Volume	Percent of total	
	1	2	3	4	5
	thousand gallons		thousand gallons		thousand gallons
1947	22,605	97.7	535	2.3	23,140
1948	27,594	96.9	889	3.1	28,483
1949	30,900	96.4	1,158	3.6	32,058
1950	33,902	94.9	1,838	5.1	35,740
1951	33,474	93.7	2,259	6.3	35,733
1952	35,296	93.5	2,472	6.5	37,768
1953	37,228	92.8	2,892	7.2	40,120
1954	38,480	92.6	3,058	7.4	41,538
1955	39,203	91.9	3,455	8.1	42,658
1956	40,820	91.4	3,834	8.6	44,654
1957	40,800	90.5	4,265	9.5	45,065
1958	42,244	90.3	4,541	9.7	46,785
1959	43,172	89.3	5,171	10.7	48,343
1960	47,467	89.4	5,603	10.6	53,070
1961	50,718	88.3	6,715	11.7	57,433
1962[b]	51,765	86.8	7,823	13.2	59,588

a/ Includes small quantities of rice wine (sake).

b/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 35

Total Commercially Produced Dessert Wine
Entering Distribution Channels in the United States, by Origin, 1947-1962

Calendar year	United States-produced wine		Foreign-produced wine		Total, all wine
	Volume	Percent of total	Volume	Percent of total	
	1	2	3	4	5
	thousand gallons		thousand gallons		thousand gallons
1947	69,357	99.0	689	1.0	70,046
1948	88,621	99.3	658	0.7	89,279
1949	95,042	99.4	584	0.6	95,626
1950	97,917	99.2	752	0.8	98,669
1951	83,738	99.1	775	0.9	84,513
1952	92,678	99.2	755	0.8	93,433
1953	92,673	99.1	881	0.9	93,554
1954	92,311	99.1	841	0.9	93,152
1955	93,692	99.0	924	1.0	94,616
1956	95,725	99.0	970	1.0	96,695
1957	93,697	98.9	1,071	1.1	94,768
1958	88,850	98.9	957	1.1	89,807
1959	86,448	98.9	977	1.1	87,425
1960	86,394	98.8	1,017	1.1	87,411
1961	87,922	98.8	1,107	1.1	89,029
1962a/	80,844	98.3	1,410	1.7	82,254

a/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 36

Total Commercially Produced Vermouth Wine Entering Distribution Channels in the United States, by Origin, 1947-1962

Calendar year	United States-produced wine[a]		Foreign-produced wine		Total, all wine
	Volume	Percent of total[b]	Volume	Percent of total[b]	
	thousand gallons		thousand gallons		thousand gallons
1947	1,422	62.3	862	37.7	2,284
1948	2,112	68.3	979	31.7	3,091
1949	2,385	69.2	1,021	30.8	3,406
1950	2,769	65.1	1,484	34.9	4,253
1951	2,928	65.5	1,545	34.5	4,473
1952	3,051	65.6	1,601	34.4	4,652
1953	3,341	65.3	1,779	34.7	5,120
1954	3,547	65.6	1,864	34.4	5,411
1955	3,428	62.1	2,092	37.9	5,520
1956	3,644	61.7	2,266	38.3	5,910
1957	6,647	59.6	2,390	40.4	9,037
1958	11,990	55.8	2,770	44.2	14,760
1959	13,638	56.1	2,897	43.9	16,535
1960	15,375	55.3	3,175	44.7	18,550
1961	17,155	55.9	3,368	44.1	20,523
1962[c]	17,600	52.4	3,779	47.6	21,379

a/ Vermouth and other special natural wines. Includes the following gallonages of other special natural wines: 1957--3,128,105; 1958--8,487,483; 1959--9,931,561; 1960--11,440,113; 1961--12,888,892; and 1962--13,448,162.

b/ Excluding special natural wines for period 1957-1962 in the quantities indicated above.

c/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 37

Total Commercially Produced Sparkling Wine Entering Distribution Channels in the United States, by Origin, 1947-1962

Calendar year	United States-produced wine		Foreign-produced wine		Total, all wine
	Volume	Percent of total	Volume	Percent of total	
	thousand gallons[a]		thousand gallons		thousand gallons
1947	1,010	84.7	182	15.3	1,192
1948	1,063	73.9	375	26.1	1,438
1949	1,045	70.8	431	29.2	1,476
1950	1,125	65.5	593	34.5	1,718
1951	1,151	64.1	644	35.9	1,795
1952	1,225	69.3	543	30.7	1,768
1953	1,399	69.8	604	30.2	2,003
1954	1,416	68.9	638	31.1	2,054
1955	1,705	71.3	687	28.7	2,392
1956	2,031	73.1	749	26.9	2,780
1957	2,238	74.3	773	25.7	3,011
1958	2,502	76.2	780	23.8	3,282
1959	3,061	78.1	860	21.9	3,921
1960	3,380	78.2	940	21.8	4,320
1961	3,684	79.3	964	20.7	4,648
1962[b]	3,833	78.7	1,036	21.3	4,869

a/ Converted from taxable units at the rate of 20 taxable units per gallon. Beginning January, 1955, data are reported in gallons.

b/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 38

Brandy Entering Distribution Channels in the United States, by Origin, 1947-1962[a]

Calendar year	United States-produced brandy						Foreign-produced brandy		Total, all brandy
	California		Other states		United States				
	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	Volume	Percent of total	
	thousand tax gallons[b]		thousand tax gallons[b]		thousand tax gallons[b]		thousand tax gallons[b]		thousand tax gallons[b]
1947	950	64.7	193	13.1	1,143	77.8	326	22.2	1,469
1948	1,485	64.9	283	12.4	1,768	77.3	519	22.7	2,287
1949	1,900	66.3	362	12.6	2,262	78.9	603	21.1	2,865
1950	2,191	65.0	386	11.5	2,577	76.5	791	23.5	3,368
1951	2,485	65.3	339	8.9	2,824	74.2	981	25.8	3,805
1952	2,375	66.2	350	9.8	2,725	76.0	861	24.0	3,586
1953	2,794	67.2	380	9.1	3,174	76.3	988	23.7	4,162
1954	2,785	65.6	380	8.9	3,165	74.5	1,083	25.5	4,248
1955	3,125	65.0	467	9.7	3,592	74.7	1,214	25.3	4,806
1956	3,380	65.0	449	8.7	3,829	73.7	1,368	26.3	5,197
1957	3,600	64.1	527	9.4	4,127	73.5	1,491	26.5	5,618
1958	3,650	63.7	586	10.2	4,236	73.9	1,496	26.1	5,732
1959	4,100	64.5	595	9.4	4,695	73.9	1,657	26.1	6,352
1960	4,349	63.7	650	9.5	4,999	73.2	1,828	26.8	6,827
1961	4,650	63.0	825	11.2	5,475	74.2	1,837	25.8	7,312
1962[c]	4,900	62.2	985	12.5	5,885	74.7	1,993	25.3	7,878

a/ Includes federal tax-paid beverage brandy and neutral brandy made from all fruits (mainly grapes) but not neutral brandy or wine spirits used in the production of dessert wine or wine spirits used in rectified products. Segregation into California brandy and brandy produced in other states is estimated.

b/ Same as proof gallons.

c/ Preliminary.

Source: Wine Institute, Annual Wine Industry Statistical Survey, Part II (San Francisco, annual issues).

APPENDIX TABLE 39

Apparent Per Capita Consumption of Wine and Brandy, United States, 1947-1962[a]

Calendar year	Table wine		Dessert wine		Vermouth and special natural wines		Sparkling wine	
	Adults	All	Adults	All	Adults	All	Adults	All
	1	2	3	4	5	6	7	8
	gallons per capita							
1947	0.25	0.16	0.75	0.49	0.02	0.02	0.01	0.01
1948	0.30	0.19	0.94	0.61	0.03	0.02	0.02	0.01
1949	0.33	0.21	1.00	0.64	0.04	0.02	0.02	0.01
1950	0.37	0.24	1.02	0.65	0.04	0.03	0.02	0.01
1951	0.37	0.23	0.87	0.55	0.05	0.03	0.02	0.01
1952	0.38	0.24	0.95	0.60	0.05	0.03	0.02	0.01
1953	0.40	0.25	0.94	0.59	0.05	0.03	0.02	0.01
1954	0.41	0.26	0.93	0.58	0.05	0.03	0.02	0.01
1955	0.42	0.26	0.93	0.57	0.05	0.03	0.02	0.01
1956	0.43	0.27	0.94	0.58	0.06	0.04	0.03	0.02
1957	0.43	0.26	0.91	0.55	0.09	0.05	0.03	0.02
1958	0.45	0.27	0.86	0.52	0.14	0.08	0.03	0.02
1959	0.46	0.27	0.83	0.49	0.16	0.09	0.04	0.02
1960	0.49	0.29	0.81	0.49	0.17	0.10	0.04	0.02
1961	0.53	0.31	0.82	0.49	0.19	0.11	0.04	0.03
1962	0.54	0.32	0.75	0.44	0.19	0.12	0.04	0.03

(Continued on next page.)

Appendix Table 39, continued.

Calendar year	All wine		Brandy		All wine and brandy		Adult population b/	Resident population
	Adults	All	Adults	All	Adults	All		
	9	10	11	12	13	14	15	16
	gallons per capita						millions	
1947	1.03	0.67	0.02	0.01	1.05	0.68	93.5	144.1
1948	1.29	0.83	0.02	0.02	1.31	0.85	94.9	146.7
1949	1.39	0.88	0.03	0.02	1.42	0.90	96.0	149.3
1950	1.45	0.93	0.03	0.02	1.48	0.95	97.2	151.9
1951	1.31	0.82	0.04	0.02	1.35	0.84	97.5	154.0
1952	1.40	0.88	0.04	0.02	1.44	0.90	98.1	156.4
1953	1.41	0.88	0.04	0.03	1.45	0.91	99.2	159.0
1954	1.41	0.88	0.04	0.03	1.45	0.91	100.2	161.9
1955	1.42	0.87	0.05	0.03	1.47	0.90	101.4	165.1
1956	1.46	0.91	0.05	0.03	1.51	0.94	102.7	168.1
1957	1.46	0.88	0.05	0.03	1.51	0.91	103.7	171.2
1958	1.48	0.89	0.05	0.03	1.53	0.92	104.6	174.1
1959	1.49	0.87	0.06	0.04	1.55	0.91	105.8	177.1
1960	1.51	0.90	0.06	0.04	1.57	0.94	107.5	180.0
1961	1.58	0.94	0.07	0.04	1.65	0.98	108.6	183.0
1962	1.52	0.91	0.07	0.04	1.59	0.95	109.7	185.8

a/ Calculated from population data given below and volume of wine and brandy entering distribution channels in the United States as indicated in Appendix Tables 33-38.

b/ Defined as eligible voters. Number of voters in odd-numbered years estimated at midpoint between even-numbered years' data.

Sources:

U. S. Bureau of the Census, Statistical Abstract of the United States, annual issues.

U. S. Bureau of the Census, Current Population Reports: Population Estimates, Series P-25, No. 250, July 3, 1962, p. 6.

Ibid., No. 264, April 12, 1963, p. 2.

APPENDIX TABLE 40

Indexes of Annual Average Wholesale Prices for Wine
United States, 1947-1962[a]

Year	Red table wine	Dessert wine	Red table and dessert wine
	1947-1949 = 100		
1947	104.2	107.9	107.0
1948	98.0	97.9	97.9
1949	97.9	94.2	95.1
1950	99.1	86.6	89.6
1951	103.4	86.4	90.6
1952	94.5	71.6	77.2
1953	93.7	71.6	77.0
1954	93.5	75.8	80.2
1955	100.4	79.4	84.3
1956	101.8	79.4	84.7
1957	106.1	82.8	88.2
1958	119.1	89.2	96.0
1959	119.1	89.2	96.0
1960	119.1	89.3	96.1
1961	121.8	89.1	96.7
1962[b]	127.3	96.1	103.1

a/ In cases of 12 fifths, f.o.b. winery.

b/ Estimated by the authors.

Source: Wine Institute, Twenty-Sixth Annual Wine Industry Statistical Survey, Part II, No. 1150 (San Francisco, 1962), p. 14.

APPENDIX TABLE 41

Data Employed in Analyses of United States Imports of Table and Dessert Wine, 1948-1962

Year[a]	Volume of imported wine entering United States distribution channels		Price of California bulk wine delivered East Coast, United States[b]		Average declared value of wine imported into the United States[c]		Current supply of wine in the EEC[d]	Average production of wine in Spain and Portugal[e]	United States per capita real disposable personal income[f]
	Table	Dessert	Table	Dessert	Table	Dessert			
	1	2	3	4	5	6	7	8	9
	gallons per 1,000 adults		cents per gallon				million United States gallons		dollars
1948	9.146	6.934	59.0	60.7	397.0	591.0	2,792	720	1,251
1949	11.417	6.083	55.0	55.7	323.0	400.0	3,054	677	1,244
1950	18.519	7.737	51.0	59.7	274.0	374.0	3,734	604	1,327
1951	22.759	7.949	72.3	104.1	259.0	392.0	3,899	622	1,324
1952	24.771	7.696	69.0	71.2	252.0	412.0	3,943	635	1,335
1953	28.619	8.881	59.0	74.3	256.0	408.0	4,133	744	1,378
1954	29.990	8.393	59.0	75.3	260.0	443.0	4,327	784	1,373
1955	37.249	9.112	61.0	80.3	267.0	456.0	4,651	824	1,444
1956	33.116	9.444	60.8	75.0	287.0	461.0	4,527	797	1,493
1957	40.434	10.328	58.8	76.9	301.0	516.0	3,759	772	1,494
1958	42.562	9.149	61.7	88.7	314.0	525.0	4,200	774	1,472
1959	47.845	9.234	65.7	93.7	299.0	527.0	4,743	722	1,522
1960	51.042	9.460	67.7	79.7	301.0	560.0	4,868	773	1,529
1961	60.764	10.193	69.7	70.7	303.0	568.0	4,371	764	1,548
1962	70.292	12.853	78.7	90.7	317.0	495.0	4,866	798	1,537

(Continued on next page.)

Appendix Table 41, continued.

a/ Calendar year except where specified otherwise.

b/ Bulk, naked, average quality, f.o.b. California wineries, plus transportation costs for wine in tank cars from California to "Group A" destinations (includes Washington, D. C., Philadelphia, New York City, and cities to the north and east of New York). Annual average, crop year beginning July 1.

c/ By months, weighted by volume of monthly imports.

d/ Production in current year plus carry-in at beginning of crop year in France, Italy, and West Germany plus imports of wine into France from Algeria.

e/ Average for current year and the two immediately preceding years. The data reported here may differ slightly from the corresponding average of production derived from data in Appendix Table 1. The latter data were derived from annual issues of the FAO Yearbook of Food and Agricultural Statistics and Production Yearbook.

f/ Deflated with index of consumer prices (all items), 1947-1949 = 100. Calculated from total disposable personal income (deflated) divided by United States total resident population.

Sources:

Cols. 1 and 2: Calculated from data in column 3, Appendix Tables 34 and 35, and column 15, Appendix Table 39.

Cols. 3 and 4: Price of California bulk wine, f.o.b. California wineries from California Federal-State Market News Service, Marketing California Grapes, Raisins, and Wine, 1948 Season (Sacramento, 1949, and subsequent annual issues). Transportation cost data supplied by the Wine Institute, San Francisco.

Cols. 5 and 6: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption: Commodity by Country of Origin, Report FT 110, annual issues.

Col. 7: Appendix Tables 4-7 and 21.

Col. 8: Food and Agriculture Organization of the United Nations, Monthly Bulletin of Agricultural Economics and Statistics (Rome, monthly issues).

Col. 9: U. S. Bureau of the Census, Statistical Abstract of the United States, annual issues; and idem, Survey of Current Business, monthly issues.

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